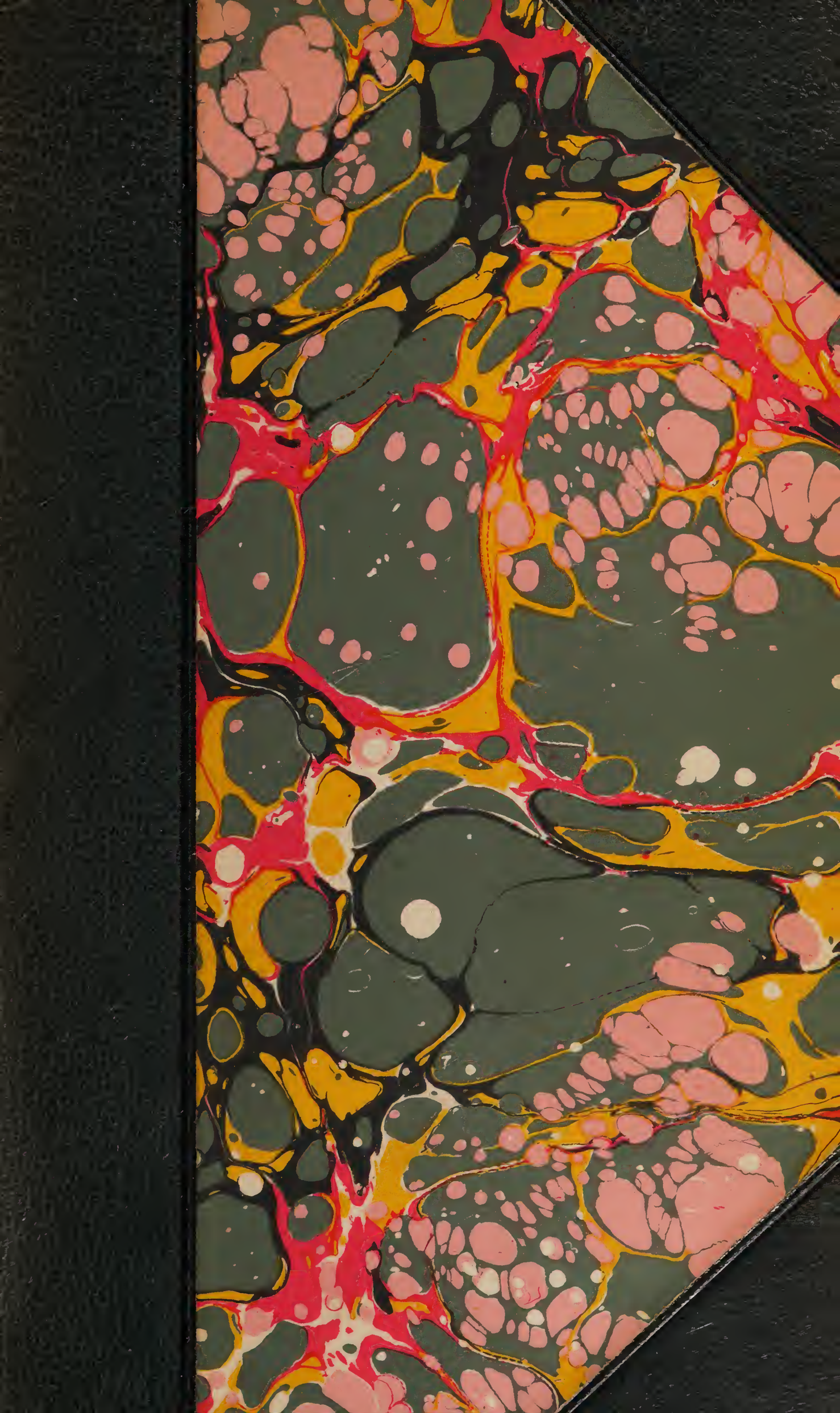

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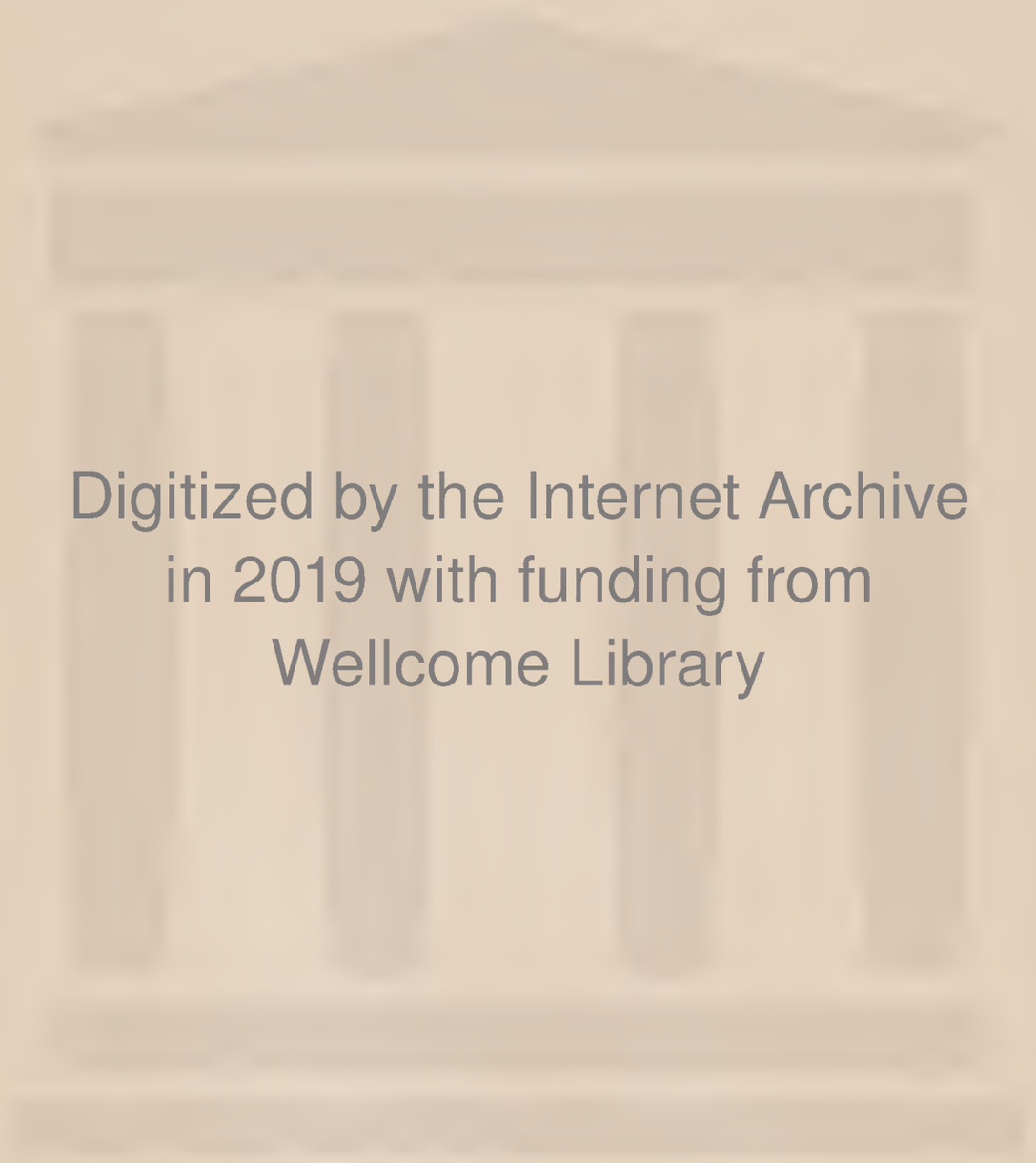

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THE

DUBLIN HOSPITAL REPORTS

AND

COMMUNICATIONS

IN

MEDICINE AND SURGERY.

VOLUME THE FIRST.

MANCHESTER MEDICAL SOCIETY.

DUBLIN:

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MANCHESTER
MEDICAL
SOCIETY.

PREFACE.

ABOUT two years ago, some professional gentlemen, attached to extensive hospitals in this city, formed the design of publishing annually Medical and Surgical Reports of the chief diseases falling under their observation, together with such incidental notices of facts and doctrines in relation to pathology, as might tend to the improvement of medical science.

The volume which is now offered to the public is divided into two parts. The first part comprehends hospital reports, or the results of experience in some distinct classes of disease on an extended scale. The second part comprehends miscellaneous cases, illustrative both of practice and pathology, in medical and surgical diseases.

It is proposed, if this volume be favourably received by the profession, to prosecute the design by annual publications of a similar kind. The work being strictly eclectic, each author is responsible for his own communications exclusively.

Physicians and Surgeons are invited to communicate digested results of their observations, on epidemic or local diseases; and to address such papers to the care of the Publishers in Dublin or London.

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MANCHESTER MEDICAL SOCIETY.

MEDICAL REPORT

OF THE

HARDWICKE FEVER HOSPITAL,

FOR THE YEAR ENDING ON THE 31ST MARCH, 1817,

By J. CHEYNE, M. D. F.R.S.E. M.R.I.A.

ERRATA.

P. 54, l. 14. *for* whole *read* white.
P. 150, l. 8. *for* animal food *read* solid animal food.

MANCHESTER MEDICAL SOCIETY.

Dr. Edward Percival finds that he was misled, by the printed Dietary of the Hospital, in supposing that the patients were exclusively restricted to farinaceous food. He now finds, on a reference to the Steward of the House of Industry, that while the Hardwicke Lunatic Hospital was in charge of his predecessors, the patients, in the proportion of one half, were allowed solid animal food.

BY an arrangement which took place when I was appointed one of the physicians to the House of Industry, in October 1815, four wards of the Hardwicke Fever Hospital, and one double ward in a neighbouring building, which also contains patients in fever, fell to my lot, as part of my charge. These wards contain seventy-four beds, which are often all occupied, especially in winter.

After making myself master of the routine of the hospital, I began, in the month of April 1816, to collect materials for this report, in which

my objects are, first, to describe the different species of fever which prevailed in the Hardwicke Hospital, from the 1st of April 1816, to the 31st of March 1817; secondly, to explain the treatment which was found of most efficacy; and thirdly, to record the unsuccessful practice of the hospital. This plan I have endeavoured to execute with fidelity; but sometimes I have found the undertaking more useful than agreeable, as it has led me to arraign measures which I thought judicious at the time they were directed. Prudence might have suggested the expediency of throwing a veil over my failures, were it my aim to vindicate my pretensions to successful practice; but my present object being to make a contribution to the stock of pathological knowledge, I have determined to come forward without any reservation.

It will be necessary to preface my report with a short account of the Hardwicke Fever Hospital and its appendages.

The Hardwicke Fever Hospital is a long building, with thorough lights, consisting of a basement story for cellarage and offices, and two floors above it. The hospital stands high, and is detached from all other buildings; the main stair-case is in the centre, and the water-closets for the wards, and the private stair-cases, are placed at each extremity; it contains four large wards, each calculated to hold sixteen beds, and two smaller wards, in rear of the lobbies, used for the convalescents, which contain

six beds each; between the large wards and the small are the nurses apartments. The hospital is tolerably supplied with water, its wards are lofty, and perfectly well ventilated, and every attention is paid by the Governors of the House of Industry to the comforts of its inmates. In short I do not know a more efficient hospital than it is. In addition to the Hardwicke Hospital there is an old building, already referred to, which contains sixty beds, also appropriated to patients in fever, and there is a small ward for convalescents, which contains from ten to twelve beds.

I willingly avail myself of this opportunity of expressing my gratitude to the Governors of the House of Industry, not merely for their cordial reception of every proposal which I ever made for the benefit of the sick, but also for the admirable opportunities which their hospitals afford of investigating disease. If this report shall be found of any value, it is due to them. With equal wisdom and liberality, they give every privilege to their physicians and surgeons, consistent with the welfare of the Institution entrusted to their care. They do not restrain them in the pursuit of pathological knowledge. They wish the hospital to be subservient to science, and the instruction of youth, as well as to humanity.

Of the patients who are brought to the Hardwicke Fever Hospital, a considerable majority are good subjects for medical practice. They are servants, manufactures or labourers, from the city or its

vicinity, who in general are brought in from about the fourth or fifth to the tenth or twelfth day of fever. It is however necessary to state, that many of the patients are sent to the hospital from those wards of the House of Industry which are the last refuge of helpless age, and infirmity arising from disease and intemperance. In the House of Industry there are also great depôts for incurable lunatics, epileptics, and idiots. Now every one knows, that in many chronic visceral diseases, as for example, in palsy; chronic catarrh; obstructions of the liver and spleen; chronic inflammations of membranes; fever is apt to be kindled up, which, although frequently accidental, cannot always at once be distinguished from idiopathic fever. If any doubt of the nature of the fever be entertained by the physician who has charge of the sick in the House of Industry, the patient is sent to the Hardwicke Hospital. A good many incurable lunatics are sent down under similar circumstances. Attached to the House of Industry, there is a large asylum (the Bedford Asylum) for friendless children, and the more severe cases of fever are generally sent down from that establishment to the Hardwicke Hospital. Hence our mortality is great. There is another circumstance which contributes to swell the mortality of the Hardwicke Fever Hospital, arising from its contiguity to the House of Industry, which must not be omitted. Many unfortunate persons, whose slender means of subsistence have been exhausted by sickness, are forced from their wretched dwellings, by a total failure of food, fuel and clothing. These destitute

beings crawl or are carried to the House of Industry, in the last stage of weakness and disease, in quest of a bed to die in; and many of these outcasts actually die in the wards of our fever hospital. In general they die not of fever, strictly speaking, but of some of the Phlegmasiae, or of some chronic disease hastening to its conclusion, with a white tongue and quick pulse. These facts, which so far from being discreditable to our hospitals, show that they fulfil their intentions in the most liberal manner, require to be mentioned, lest any one should form an erroneous judgment of the column of deaths in our registry.

To every ward there is a nurse, and a deputy-nurse or ward-maid, neither of whom is allowed to leave the hospital, without special permission. The deputy is required to scour the ward, at least once a week, and to mop it daily, and this service is never dispensed with. The nurses are charged with the ventilation of the hospital, and made responsible for any irregularity on the part of the patients, and they are expected to conduct themselves in conformity with regulations which have been issued by the governors, a copy of which is hung up in every ward. And each nurse and deputy has a printed copy of the following instructions, which I drew up for their guidance:

Additional Instructions for the Nurses of the Hardwicke Fever Hospital.

1st. The nurses are not only to conform, in every respect, with the printed regulations of the governors of the House of Industry, but are also to instruct the visitors and and patients in such things as relate to their conduct.

2. When a patient arrives in any of the wards, the deputy nurse must wash his face and neck, hands and arms, and feet and legs, with soap and milk-warm water. The nurse shall then give him an hospital shirt and night cap, put him to bed, and have his clothes, without delay, sent to the woman whose business it is to see them purified. She shall then carry the label, which belongs to his bed, to the porter, that the name of the patient, the number of days he has been sick, and the date of his admission, may be written upon it, with chalk.

3. When a patient is admitted after the visit, the nurse shall give him, as soon as he is settled in bed, one or two of the common purgative pills, according to his age; and in three or four hours after, if he has not had a stool, she shall give him one or two table-spoonfuls of the common purgative mixture. The mixture must be repeated every three hours, until his bowels are moved.

4. At the first visit the nurse shall report to the physician the number and nature of the stools, the

condition of the urine, the appearance of the skin, with respect to spots, pimples, or purple blotches, sores, bruises, or inflammations, the existence of vermin or itch, and every other thing which may throw light on the nature of his disease.

N. B. Patients from the Lunatic wards, and children, must be stript naked and examined.

5. At every succeeding visit, the nurse will also report the nature of the patient's stools and urine, more especially with respect to any deficiency in either. If the stools or urine contain blood, matter, or slime, they must be preserved in the water closet, that the physician may inspect them.

6. The nurse shall daily examine, with her hand, the bellies of all females and children, and report any unusual fullness or tenderness about the stomach or bladder. She shall also daily examine the backs of all patients who are in a stupid state, who have been long ill, or who have purple blotches on any other part of the body, that she may report the first appearance of fretting of the skin, or discolouration about the back or hips. In such patients, she shall pay particular attention to the appearance and warmth of the feet. She shall report any shivering fit or perspiration, which may have taken place between the physician's visits.

7. It is the duty of the nurse to pay great attention to the state of the patient's mouth. She shall frequently supply him with drink, when he is not

able to assist himself, and take care, when he is, that the vessel from which he drinks is placed commodiously within his reach, and is never empty; and when his tongue and gums are covered with a brown or dark crust, she must have them wiped with a bit of fine flannel, moistened with salt and water, two or three times a day; or, if this cannot be accomplished, she must put a thin slice of lemon, without the rind, in his mouth. The patient is often unable to swallow from the dry and shrivelled state of his tongue; before offering him drink, the nurse shall put a tea-spoonful of lemon juice and water into his mouth, after which, she must wait a minute or two, until the scum upon his tongue is softened, and then he will often drink with ease.

8. When, during great derangement of mind, a patient insists upon leaving his bed, the nurse must endeavour to calm him; or if that should fail, she may speak with authority, but she is not, on any account, to use forcible restraint. She must wrap his legs in a blanket, put on his bed-gown, and permit him to sit on his bed, or even to go to the fire, till the violence of his derangement shall abate. When indulged in this manner, he will, in general, soon return to his bed of his own accord. Patients, in fever, have perished in consequence of a struggle with their attendants, who, from a mistaken sense of duty, have endeavoured forcibly to detain them in bed, when they persisted in their efforts to leave it; whereas, had they been humoured, no injury would

have arisen, provided they had been sufficiently covered.*

* Shortly after I took charge of the hospital, in several instances, the maniacal paroxysm of fever, with determination to the brain, was aggravated by coercion, and hence I was led to give the above directions. The following excellent passage will be found in Grant's chapter on the Synochus Putris. " As soon as the delirium comes on, the pain subsides, or at least the patient does not complain of pain, or seem to feel any; but replies, in a hurried manner, when asked how he does, that he is very well; according to the observation of a French physician, " Quand le " malade repond, je me porte bien, se seul mot suffit, il n'est " pas plus a lui." In all these cases, the patient endeavours to get out of bed, to sit up, or even to walk about from one room to another; but unhappily the attendants are solicitous to confine him to bed, and to load him with bed clothes; nay, he is frequently kept struggling for two or three days together, with two strong people lying upon him continually. Now, to prevent all this misery, I know no method equal to what is here recommended, namely; let the patient have his clothes put on, and be placed in an easy chair; let his head be shaven, washed with vinegar, and covered with a linen cap. When he is tired of the erect posture, let him lie along on a couch, or upon the bed, with his head high. Let his diet be cooling and his body kept open by clysters, repeated occasionally. Let this method be persisted in till his delirium goes off; or till the pulse subsides, and he seems exhausted; then, perhaps, he will begin to doze, or slumber on his chair, which will do him no harm. When the tongue is moist, the body open, the pulse soft, and the patient seems sinking, then, and not till then, let the head be covered with a blister; give him camphor julep with spiritus mindereri and diaphoretic antimony. After these operations, if he is inclined to go into bed, let him lie down; and if he should remain quiet, or fall asleep, or even if a sweat should come on, let him remain in bed. But if, notwithstanding, the violent delirium should return, let him be taken up and treated as formerly. By this method, I have recovered a great number of people when I was suffered to conduct them; and I do believe some

9. In the event of any sudden attack of pain, vomiting, purging, hiccup, stoppage of urine, frenzy, fainting, or convulsions taking place in the absence of the physician, the nurse must immediately procure the assistance of the apothecary.

10. When the nurse perceives any sudden increase of illness, she must, without loss of time, send for the apothecary, and also for the clergyman of the persuasion to which the patient may belong.

11. The patient's face and hands are to be washed with milk-warm water, every morning, by the deputy nurse. And when he is no longer able to assist himself, his head, when shaved, his face, breast, hands, and arms, must be frequently sponged with vinegar and water.

12. The sheets and the shirts or the shifts must be changed at the stated periods appointed by the matron. When a bed is unsettled, or a patient's head uncomfortably low, or when his feet are pushed from under the bed clothes, he must be raised in bed, and the bed, bolster, and clothes shook up and smoothed. Before the patients are settled for the night, the beds are all to be smoothed, or made by the deputy nurse, and clean utensils placed by the bed. At all times, wet or dirty sheets or bedding

have perished by an opposite treatment that might have been saved."

are to be removed without loss of time. No foul or dirty linens are to be left in the wards or closets.

13. Before the convalescents go to bed for the night, the sheets, blankets, and quilts, are to be thrown back for a couple of hours, that the sheets may be exposed freely to the air.

14. When the patients are unable to reach the water closet, the close-stool is instantly to be emptied, and the floor between the beds sprinkled with vinegar.

15. The prescription book must be conveyed by the nurse to the apothecary, immediately after the physician's visit. She must not receive any medicine from the shop, which is not properly labelled and directed.

16. When a patient has an allowance of wine, porter, or punch, one of the printed labels, setting forth the quantity, must be hung up on the wall over his bed.

17. When a death takes place before nine o'clock at night, or after six in the morning, the nurse shall immediately go to the apothecary, and obtain an order for a coffin.

18. The corpse, with a skreen drawn round the bed, is to lie untouched for two hours after death; it must then be removed, without further delay, to the dead house.

Dietary of the Hospital.

LOW DIET.

BREAKFAST.	
Flummery, 1 pint.	With whey, buttermilk, or
New milk, 1 pint.	gruel, ad libitum.

MIDDLE DIET.

BREAKFAST.	DINNER.	SUPPER.
Stirabout, 1 quart.	Soup 1 pint.	Flummery, 1 pint.
Butter milk, 1 pint.	Bread ½ a pound.	New milk, 1 pint.

FULL DIET.

BREAKFAST.	DINNER.	SUPPER.
Bread ½ a pound.	Beef ½ a pound.	Bread, 4 ounces.
New milk 1 pint	Bread ½ a pound.	New milk, 1 pint.

When the patients recover their appetite, they are allowed middle diet; in three or four days more, they are permitted to leave their beds; and then, if there be no particular objection, they are placed upon full diet. The different articles of food are of good quality. The milk is mixed with a proportion of water, as is the case in all great cities, but it is not adulterated. The bread is made of the whole of the meal; it is brown of course, but well raised and sweet. But in a considerable proportion of the cases, I find it economical, in as far as recovery is thereby expedited, to order bread of the quality of the common household loaf. This is always done when the digestion is impaired, the bowels disordered, or the respiration affected.

In a majority of the cases which at any time occupy a fever hospital, there are so many points of resemblance, that an experienced person may soon discover the character of the prevailing species of fever; nor would he find much difficnlty in giving it a name. But in the present unsettled state of medical opinion with respect to the essence of fevers, what one would call typhus or synochus, another might call a pituitous or bilious fever; and a third, according to some particular determination, might denominate a gastric, pulmonic or cephalic fever. I shall endeavour to describe the prevailing varieties of fever, without presuming to affix a name to them. I shall begin with a description of the fevers which were in the hospital in the latter end of spring and in the summer of 1816.

In almost every instance the disease began with rigors, flushing, headach, thirst, anorexia, and a white or grey tongue with florid edges. Headach was much complained of in fifty-three cases of fever out of eighty, of which I made memorandums, in the month of July, when the disease appeared in its most perfect form. In only three or four of these cases was there much delirium; in one the delirium ended in stupor. In about a fourth part of the cases there were pains in the bones; and in a like proportion there were pains or stitches in some part of the chest, generally attended with cough and oppression of the breathing, which was relieved as expectoration became free; the expectoration in one case only was bloody. Scarcely a case occurred in which there

was not either headach, pains in the bones, or pains or stitches in the chest. A good many complained of oppression of the præcordia, of whom only one or two had pulmonic distress. Nausea, attended with vomiting, was common. The tongue was furred, and grey, with florid edges; we seldom saw a brown, dry, shrivelled tongue, even in the latter end of the disease. The urine was high coloured and scanty, and the bowels confined, especially at first. That universal debility which belongs to the early part of many continued fevers, was rare, and petechiae occurred chiefly in the neglected cases. The perturbatio critica was well marked: the fever generally terminated on one of the critical days after the seventh, with a rigor followed by perspiration and turbid urine. Relapses were rare. Convalescence was rapid, and the patients were discharged at a medium in about twelve days after crisis.

Such were the fevers which prevailed till the second week of August.

More than thirty years ago it was remarked by a very eminent physician, the late Dr. Quin, that wet and cold summers always proved healthy ones in Dublin. In the summer and autumn of 1816, there was so little sun that the corn did not ripen, nor did the fruits acquire their usual flavour. The diseases which are usually connected with atmospheric heat, as for example cholera, were not observable before October: of cholera, I think I saw only one specimen.

The disease which I have just described was fatal in but a small number of instances. I never witnessed continued fever with so many inflammatory symptoms; and it was probably owing to this peculiarity, that it proved so favourable; for when danger existed, it arose from a manifestly inflamed state of some of the viscera, a state which yielded to bloodletting when seasonably employed. The extent to which bleeding, general and topical, was carried, will appear from the apothecary's return, which will be annexed.

Of the patients some few young and plethoric persons were let blood in the commencement of the fever, to moderate general febrile reaction, as indicated by flushing, increased heat of the surface, thirst, and high coloured urine, together with a deficiency in all the secretions. But this practice was confined to those who were admitted on the second, third, or fourth days of the fever, with a manifest tendency to inflammation: comparatively the number was inconsiderable. Blood-letting, in six cases out of seven, was practised to relieve determination to the head, the lungs, the liver, or some part of the alimentary canal. When the eyes became bloodshot, the headach severe, attended with flushing of the countenance; when there was pain in the chest, with cough and inability to inspire fully, or even when these symptoms occurred singly; when there was nausea and vomiting, attended with distension of the upper regions of the abdomen; when there was yellowness of the skin, accompanied with pain in the right hypochondrium, or irritability of the stomach,

or when diarrhœa set in attended with tenderness of the belly, I found the lancet a never-failing means of relief.

When determination to the head in fevers took place, I used to rely upon leeches, or cupping and scarifying; but during the prevalence of this variety of fever I gradually came to prefer the lancet, and never had cause to regret my preference; both general and local bleeding were often necessary.

When diarrhœa took place, if it was not relieved by a solution of neutral salts, or a dose of castor oil and tincture of senna, the patient was blooded on the day after it appeared; and the improvement which generally followed gave me cause to regret, that some patients who sunk under mucous diarrhœa in the early part of spring, had not been blooded.

The advantage of blood-letting appeared not merely in the relief which was immediately experienced by the patient, but in cathartics acting with more ease and effect; in all the surfaces yielding—the skin and mouth becoming moister, and in a complete and regular crisis taking place very often on the next critical day. Blood-letting often strangled the disease in its birth; and when practised, on a relapse being threatened, it several times restored the patient to health in a few hours.

I was not deterred from using the lancet by the appearance of petechiæ, nor yet by the tingling heat of the skin (the calor mordax) which used to be considered as a symptom of peculiar acrimony or putrescency of the humours, and consequently of a malignant disease.

The blood was sizy in nearly one half of the patients who were blooded. The condition of the blood had some influence with me in regulating the subsequent treatment. But it may be observed, that blood-letting seemed to serve those patients who had not sizy blood nearly as much as those who had.

Finally, the sequelæ of fevers, such as biliary irregularities or pulmonic affections, with a tendency to dropsy, which so often destroy the patient's health or keep him long in suspense between life and death, were observable in only two or three cases; and in these, the patients had laboured under chronic inflammations, before the fever existed. They had been threatened with pulmonary consumption, or had long been harrassed with chronic catarrh, or had been affected with hepatic obstruction.

It ought not to be concealed that blood-letting in two instances, in which it was performed too late in the disease, seemed rather to accelerate the fatal termination; these cases shall be specified. It is also worthy of remark, that in two or three cases in which venesection was performed during the exacerbatio critica, the salutary effort of the constitution

was interrupted, and the fever went on for several days longer. Hence, if a rigor or sweat shall take place before the apothecary comes to execute my orders, it is my instruction that the bleeding be postponed. When a rigor took place I directed the patient to be supplied freely with tepid diluents, contrary to the opinion of one or two of the most experienced nurses, " who affirmed that " drinks given in the time of the cool generally damped it ;" but in this opinion I found they were mere theorists. A very moderate exhibition of cordials was sometimes permitted, when the struggle was violent and long continued, and the patient exhausted.

Of the patients who had been treated in a different manner, or who had not been subjects of medical practice, but had lingered in their own miserable dwellings, under a load of filthy bedclothes, deprived of pure air, and without having had any attention paid to their bowels for the first ten or twelve days of fever—many such objects were admitted into the hospital in the course of the summer, labouring under great debility, with a brown dry tongue, tumid hypochondria, small quick pulse, petechiae and delirium tending to coma. Even in these cases I had reason to think that the disease often commenced with inflammatory symptoms. It happened on several occasions that we had to admit five or six persons from the same house, part of whom laboured under a fever with typhoid debility, while the more recent cases clearly belonged to the species of fever which I have described at length. It was observable that

such fevers as apparently had become typhoid from neglect or mismanagement, often regained their likeness to the prevailing mode of the disease, before the patients had been many days in the hospital. It is an admirable remark of Grant's, that synochus non putris becomes putrid and nervous when early evacuations are neglected. The same author somewhere remarks, that a new mode of treatment will turn an old fever into a new one. Were we to crowd our wards, shut our ventilators, give the patients a superfluity of bedclothes, and begin early to treat the disease as typhus was treated a few years ago, namely, by bark, wine, and opium, there can be little doubt but that typhoid fevers would be the consequence. *See Sutton's Tract on Fevers, and Sydenham Sched. Monitoria, sect.* 45.

No man can form an estimate of the value of a fever hospital, who has not had an opportunity of witnessing the number of cases in which simply the accommodation and regimen of the house produce a favourable change in the complexion of the disease in a single night. In very many instances, the ablution of great part of the body, change of linen, the common purgatives of the hospital, the pure air of the ward, and the supply of cold diluting drinks, were productive of a crisis in the course of the first night. While, without these advantages, the disease, if we were to judge from the neglected cases, would have continued to the end of the third week, and then perhaps have terminated fatally, all the while the patient's attendants, or the inmates of the

same house being exposed to contagion. Because Haygarth has not made an ostentatious display of his services, the public seems to have forgotten its obligations to him.

Next in importance to blood-letting were cathartics. Indeed it would be impossible to settle the respective claims of these remedies which co-operate in producing the same beneficial effect. The bowels were kept soluble by moderate doses of the mildest purgatives in all who were previously blooded. It would now be idle to recommend purgatives in fever, a practice which has become universal. By the origin of that practice in Edinburgh, compensation has been made for the fatal errors which were founded on the doctrines of fever so long taught in that city. But in the practice of physic we no sooner correct one error than we fall into another: in the administration of purgatives, the bridle is often more wanted than the spurs.* Much yet requires to be done, before we can consider the rules for administering purgatives and blood-letting in the different varieties of fever, and in their different stages, as sufficiently exact. We are not to prescribe blood-letting or purgatives because the disease is continued fever, nor even because it is a certain kind of fever, but because these remedies are adapted to the case under treatment. "Fortunate medebitur qui remedii exhibendi occasiones sagax captat, quive repertæ indicationi potius quam specificæ cuidam remediorum

* "As an ardent fever always requires a bridle, the slow fever very often demands spurs." *Huxham.*

"virtuti confidit." *Stoll.* In many cases of fever an extravagant use of drastic purgatives in the outset of the disease has been highly injurious; the bowels being thereby over-excited, have refused obedience to purgatives of a moderate strength, and a disposition to tympany has taken place early, which perhaps has ended in involuntary stools. In the description of fever in question, I found mild purgatives so efficacious that I never ventured to order drastics; nor, with the exception of the Hospital Pills,* which, by an established rule, are given to every patient who is received after the visiting hour, did I find it necessary to give a mercurial in one case of twenty.

If, as sometimes happened, the bowels had not yielded before my first visit to the patient, and if blood-letting was not required, I generally directed the pills and purgative mixture to be continued at intermediate periods, and a glyster to be given in the evening. If the bowels had been much acted upon, the patient was left upon diluents, or perhaps the saline effervescing mixture was given; if only moderately affected, the senna mixture with camphor† was prescribed, an ounce of which mixture (No 2.) given every fourth hour during the day, generally produced from two to four stools, without griping; I found

* ℞ Hydrarg: Submur. Pulv: Ipec. Scammonii. Aloes utriusque scrupulum, Syr. q. s. s. f. Pilulæ viginti.

† No. 1. ℞ Camphoræ grana sex, spir: vinosi rectif. gtt. decem, Sacchari drachmas duas, Infusi Sennæ uncias, quinque Tincturæ Sennæ Comp: drachmas sex f. Mistura vel

No. 2. ℞ Mist: Camph: Inf. Sennæ āā ℥iii. Tinct: Sennæ Comp. ℥vi m.

it a carminative, as well as an aperient, and this excellent combination was often continued during the whole of the disease. I believe Sydenham's opinion, "that purgatives given at the time of coction, prevent crisis," is erroneous, at least in this kind of fever, for purgatives were always given upon admission, and continued generally for twenty four hours, and the frequency of crisis on the night after admission was very remarkable. I rather am inclined to say of this fever, as Grant has said of the Synochus Putris, that "Purging is always necessary, and an "open body throughout the whole ailment.

If the stomach was not affected, griping was often removed by means of a draught which contained half an ounce of castor oil, and twenty drops of laudanum. If I found the stomach irritable, and the upper part of the abdomen tumid, I directed ten or twelve ounces of blood to be removed, and a drachm of the sulphate of magnesia in an ounce of infusion of roses to be given every third hour; and this remedy, after blood-letting, was most effectual when hypercatharsis occurred in the early part of the disease. When the liver was the seat of inflammatory excitement, the same treatment was adopted, after which the mildest mercurials were given, with ipecacuan; and when the stomach continued irritable, opium was substituted for ipecacuan, or added to it.

Emetics were not given unless, 1st, in cases of threatened relapse. In such cases an emetic was given in the afternoon, followed by an anodyne

draught, which consisted of laudanum, camphor mixture and antimonial wine, and a purgative early in the morning. If, however, while a relapse was threatened, there was intense headach or pain in the chest or belly, bleeding, either general or local was practised, and the blood, I think, was in general sizy. These remedies seldom failed to remove the threatened relapse, and bark, when the tongue became moist and tolerably clean, quickly restored health. 2dly, in the advanced period of the disease, when, without any marked inflammation or congestion of blood, the tongue was dry and shrivelled, I very frequently gave 15 or 20 grains of ipecacuan with great relief. This I did "to resuscitate secre-" tion"* After the emetic, cordials were given with the best effect. I may observe, by the way, that in the advanced periods of this fever, ipecacuan, to the amount of 20 grains, very often failed to cause vomiting, in which case, however, it acted as a purgative, and with equal advantage to the patient.

It will appear from the returns, that cordials were used with great moderation, yet I must observe that cordials were not withheld from mistaken motives of economy. The economy of an hospital ought to be judged of by the expedition with which cures are performed, and the patients restored to their families. And hence, wine at five shillings a bottle is more economical, than mixed spirits or punch at one shilling. I had been taught by one of my earliest masters, the late Dr. Rollo, that punch or porter might, in most instances, be substituted for wine.

* Brocklesby.

In the advanced period of the fevers which occurred in the winter of 1815-16, as soon as I saw the patient rallying from great weakness which had required an allowance of wine, I frequently ordered punch, and in a day or two have observed the tongue, which the wine had tended to expand and moisten, again becoming shrivelled, and the patient who had turned on his side again lying on his back, his countenance at the same time becoming muddy and his intellect obscure. This happened, not in one case or two, but in so many as to leave me pretty well assured of the fact; and upon conversing with my predecessor in the care of the first and fourth wards of the Hardwicke Fever Hospital, I found that he had made a similar observation. Moreover, were punch as good a cordial as wine, which it is not, for its effects are more sudden, and less permanent than those of wine, and it irritates the mucous membranes more, I think we ought not to strengthen the prejudices in favour of it among the lower ranks of the people of this country, by prescribing it as a remedy for great weakness.* With respect to porter, it was sometimes preferred to wine by the patients, but it was by no means so generally efficacious, and it was not admissible when the bowels were in a slippery state. I do not mean to affirm that there

* The nurses in this country, in general, are excellent: they are kind, handy, and faithful to their trust; but still, if punch, were thought necessary, it ought to be administered to the patient by some person of superior trust; more may be ordered than can be taken by a patient, which is often the case with cordials, when the patient is dying, and the surplus will be a temptation which a nurse, exhausted by watching, might find it difficult to withstand.

were no cases in which punch and porter were beneficial, but these were cases in which they were relished, while wine caused disgust; and in endeavouring to act upon an established principle, we must not forget what is due to idiosyncrasies. The union or alternation of cordials and mild cathartics, as recommended by Huxham, was of great service often.

When the violence of the fever was subdued or had subsided, sleep greatly accelerated recovery. Hence when opium was not contraindicated, it was often given at bed-time in a moderate dose. When a patient in the advanced stage of the fever earnestly sought a medicine to procure sleep, it was not refused, provided the bowels were free, and the tongue and skin moist. Sydenham's practice of giving an opiate in the advanced periods of fever after a purgative, is often an excellent one. Fifteen, twenty, or twenty-five drops of laudanum, in an ounce of camphor mixture, was the draught usually given. Large doses of laudanum were not necessary. Opiates were not given in the early part of the fever, unless in particular cases, and combined with mercurials, purgatives or expectorants.

Blisters were frequently directed to the neighbourhood of the organ most affected, more especially on the eve of a critical day. On the nape of the neck, to relieve headach, or over the seat of the pain, when it existed in the thorax. In one or two instances, in which there was an affection of the lungs with typhoid debility, after venesection, a large sinapism was applied, sprinkled with the tinc-

ture of cantharides. This is a very expeditious vesicatory, but if not carefully attended to, and removed when the vesication is formed, it is a very severe application. One patient seemed to me to owe his life to it, but extensive ulcerations were formed which it was difficult to heal.

In the second week of August several cases occurred which seemed inclined to degenerate into dysentery; and about that time there was, in one or two instances, a discharge from the bowels of blood, immediately after which the fever ended favourably.

The fevers underwent a change of character about the beginning of September. The flushing and headach continued, and the patients complained of general pains. I saw no instance of rheumatic fever, but the pains were nearly as severe as in that disease; the pains referred to the bones, were without the tenderness or tumefaction of the cellular membrane, which accompanies the more superficial pains of acute rheumatism. Nausea, and sometimes distressing sickness, was more prevalent, without however being so often attended with fullness of the hypochondria as might have been expected. The bowels were in general confined; bitterness of the mouth, or a foul taste was very general; and, in many cases, the tongue was furred and yellow, as if the patient had recently swallowed a light infusion of rhubarb. When the disease began to abate, the patient was often excessively weak. Petechiæ took place in many cases.

In September those patients who were blooded from a vein recovered slowly, nor did they seem to obtain that immediate relief from blood-letting which had taken place during the four or five months before. Local bleeding was more practised than general. The remedies which appeared most beneficial were emetics of ipecacuan, (which did not produce constipation, as mentioned by Tissot,) saline diaphoretics, diluents, such as water acidulated with vinegar, two-milk whey, &c. and mild purgatives—leeches, particularly to the temples, shaving and sponging the head and upper part of the body, while the extremities were kept warm.

The fevers became of a still more severe kind in the beginning of October, during all which month I paid particular attention to them, briefly noting every case. In October I found it necessary to narrow my field of observation. I had requested the apothecary to send the worst cases into my wards, that I might the sooner become acquainted with the new mode of the disease, and from the severity of many cases I had often to spend a large portion of my time in wards No. 1, and 4, taking notes, which, as I had no clinical clerk, I did with my own hand, so that my attention was exhausted, and consequently when I came to No. 7, I was obliged to confine myself to mere prescription.

In October the symptoms of the fever were headach attended with flushing; the foul and bitter taste was almost always complained of; there was sickness and vomiting. In many cases the tongue was yel-

low, in some instances with a very florid edge. In about one third of the cases there were severe pains in the bones; some patients had what they called a "trembling" or thrilling in their bones; in not more than five cases out of fifty were there stitches in the chest, or cough. The heat of the surface was great, a florid rash with papulae intermixed, or the violet or florid petechiae (stigmata) occurred in a great many instances. In some the belly was obstinately costive. Several individuals had been without a stool for many days before their admission, and such were severe cases, the bowels often falling into an opposite extreme. There was great debility throughout, some were affected with syncope in the beginning; the severe cases seldom terminated before the end of the second week, which they did gradually, often without perspiration, scarcely ever with rigor. There were however cases in which an imperfect crisis by the skin took place on one critical day, and on the next or subsequent critical day the relief from fever was complete after a return of perspiration; so that sometimes the nurses would observe, that the patient had got only half a cool. I believe, if the urine had been generally attended to, which it was only in a few cases, it would have been found turbid, with a lateritious or furfuraceous sediment, even in those cases in which the skin did not yield. Towards the end of the disease the bowels became loose, and continued so for some days, the colour of the stools being natural. Recovery was tedious; it was promoted by the gentle night sweats, which frequently took place during convalescence. Relapses were not unfrequent.

About the end of September and beginning of October several patients died unexpectedly. They sunk rapidly, and the symptoms and dissections concurred in explaining the cause of their death.

In these cases the distress of the patient often bore no proportion to the danger he was in; the former was very little, while the latter was extreme. The disease would proceed without violent symptoms, nay, a patient would seem to be recovering, although without any critical discharge: he would call for full or middle diet, and for days would take his food regularly. The only circumstance in his situation which demanded attention, was that he regained neither flesh nor strength; he expressed no desire to leave his bed. Then his pulse again became quick, and his tongue dry, and he would complain of dull pain or uneasiness in his belly, attended with soreness on pressure, and a degree of fullness in the upper part of the abdomen; the fullness was not elastic, nor hard, nor indeed was it considerable. Then came on a loose state of the bowels and great weakness: probably at the next visit the patient was lying upon his back, with a pale sunk countenance, and a very quick feeble pulse, his mind without energy. Then the stools (mucous) passed from him in in bed, and the urine also; perhaps a hiccup came on; next his breathing became very frequent, in which case death was at no very great distance.

Attempts to check the diarrhœa by means of astringents or opiates, or to rouse the patient by cor-

dials, were alike unavailing; such remedies only seemed to accelerate death.

By examining the bodies of those who died of this fever, I at once discovered the organ in which it chiefly resided. In October, November and December, in every dissection, the mucous membrane of the alimentary canal was found in a state which shewed the existence of previous inflammation. It was thickened, vascular, in many parts of a bright red colour, blood sometimes was effused beneath it, the veins appeared varicose, the rugæ were prominent, and between them we often discovered small white eminences like enlarged mucous follicles with minute apertures in the centre. " Dans un corps sain, " il est difficile d'appercevoir, sans le secours de l'art, " ces follicules dans le ventricule et l'intestine grele." *Wagler*, s. ix. 49.

During the last three months of the year 1816, the mucous membrane of the intestines was peculiarly liable to disease. We had a considerable number of cases of idiopathic dysentery, of which it is the seat; the fevers frequently terminated in an obstinate bowel complaint, which was supported by an inflamed state of the inner surface of the intestines, and which ultimately produced the same morbid change of structure as in dysentery; for I examined the bodies of several subjects who had been dysenteric after fever, with a view of ascertaining the cause of death. In three or four dissections which were made after measles, the mucous membrane of the

intestines was greatly diseased, the diseased appearances resembling those which took place after the fevers. The admirers of Sydenham will not deem this circumstance unworthy of record; that great observer having directed the physician who is studying the nature of fevers, to attend to the genius of contemporaneous diseases. Having adverted to the difficulty of ascertaining the species of a fever from its concomitant signs, he adds, "it may often be "sufficiently known by carefully attending to other "diseases which arise at the same time."

The change in the disposition of the prevailing fever, together with the appearance on dissection of the intestinal canal, led me by consequence to change my plan. But I was chiefly influenced by finding that cordials were of no use even while the strength of the patient was rapidly sinking. In September, when the fevers were attended with general pains, yellow tongue, and great debility, emetics, purgatives and cordials (the latter in the advanced stage and in great moderation, not more than four or six ounces of wine in twenty-four hours) seemed very serviceable. But in October, although I still continued to use emetics, (ipecacuan alone) and mild purgatives, I gave cordials very sparingly, and to not more than one patient in ten or twelve; and I was frequently obliged to counter-order wine after it had been allowed for a day or two.

With mild purgatives I returned to the use of bleeding and saline diaphoretics, and to such reme-

dies as moderate inflammation of the mucous membranes. I never bled in anticipation of danger; in fact I was not aware of danger until symptoms of intestinal inflammation appeared. I did not venture to remove more than eight, ten, or twelve ounces, at a bleeding. Davis, lost more blood from leeches; for the effusion of blood continued for twenty-four hours, and he seemed to be dying in consequence of it; to which event I could not easily have been reconciled, had I not considered his as a lost case when I ordered the leeches to be applied. The bleeding from several of the orifices could not be stopt till they were touched with a pencil of lunar caustic. I believe the bleeding saved his life.

While I am ready to do justice to Wagler's admirable work, I must observe that the principles which guided him in the treatment of a similar disease, were not applicable to the worst cases of fever which occurred in the Hardwicke Hospital, during the three last months of 1816. With respect to bleeding he observes, "c'est toujours du pouls lui-"meme que l'on doit en tirer l'indication, et jamais "d'une douleur quelle qu'elle soit, d'anxieties, ou "d'autres signes trompeurs."* According to my observation, the converse of this rule would lead to much more successful practice. The pulse, more especially in the early period of fevers, is often a most fallacious guide, while, in general, the indication may be drawn with all the certainty which can be

* Traite de la Maladie Muqueuse, s. iv. § 106.

obtained for therapeutics, from the existence of tumour, tenderness, pain, and anxiety.

Sydenham well understood the nature of the looseness which sometimes attends fevers of this description, and its treatment. He tells us that it arises from inflammatory rays conveyed through the mesenteric arteries, which irritate them to discharge their contents; and nothing, he says, proved so effectual in stopping this discharge as bleeding, and cooling the blood by diluents.*

After giving an emetic and a saline purgative, I very generally directed the camphor mixture with nitre. In the severe cases, blisters to the abdomen applied after bleeding, were often of remarkable service. Mercurials, although they were sometimes given with advantage, more especially when the disease degenerated into dysentery, were by no means so generally useful, even in that case, as I should have expected. The result was very different from what would have been obtained, had the dysentery been allied to remittent fever. I gave mercurials in various forms and combinations, in large doses and small, with ipecacuan, opium, and with both combined. Mercury in the form of the blue pill, with an equal quantity of the compound powder of ipecacuan,—three grains of each, every fourth or sixth hour, appeared to answer better than more active mercurials, given in

* Sydenham, sect. 3. ch. 3. § 3, 6, 7.

larger doses, with a larger addition of opium. But, as this combination not unfrequently failed, and, as in more instances than one, symptoms of dysentery, after they had been removed by venesection, purgatives, opium and mercurials, returned, even while the mercurial ptyalism subsisted, I at length laid mercurials aside in most of the cases in which dysentery took place of fever, and I trusted the cure to bandages of flannel to the belly, a warm bath every evening, followed by a pretty large dose of the compound powder of ipecacuan, an occasional mild purgative—salts, or castor oil with laudanum, in the morning, and bleeding whenever there was much pain or tenderness of the abdomen. The frequency of the stools was restrained by means of a mixture made by adding a drachm, or a drachm and half of laudanum, and two or three drachms of ipecacuan wine to six ounces of the chalk julep.

The functions of the brain were little disturbed, nor was there any affection of the lungs; the liver was torpid, its functions are always disturbed when the stomach and intestines are diseased, but, anatomically speaking, a morbid state of any of these organs did not seem to be an essential part of the disease. The mucous membrane of the stomach and intestines was the only part of the body which was uniformly diseased. In addition to the morbid appearances which I have already described, this membrane was coated with a brown or amber coloured viscid secretion, which in some places was tinged with blood.

The fever was often attended with mucous and bloody stools, with uneasiness in the whole of the abdomen, but more especially in the upper part of it, which it was sometimes difficult to know whether to refer to the stomach, transverse colon, or the whole track of the intestines. The uneasiness to the touch was never so great as that which attends inflammation, when seated in the muscular or serous membranes of the intestines. Indeed the diagnostic in diseases of the intestines would be very defective, were we to suppose that inflammation of the mucous membrane necessarily implies tension, and great pain or tenderness upon pressure. These symptoms attend dysentery in many instances; and they imply that the inflammation has spread from the mucous to the other coats of the intestines, but they do not necessarily belong to that disease. That the serous membranes eventually became diseased, we had more than one proof. Two of the patients contracted ascites in their progress towards death; and it may not be irrelevant to mention, that in these cases was observed, what I believe may often be observed, an alternate excess of action in the mucous and serous membranes; for, when the mucous stools were checked, an effusion into the cavity of the abdomen took place, and this effusion was suspended and absorbed, when, by exciting the inner surface of the intestines, the stools again became frequent.

The tendency to dysentery was at one time so remarkable, that in No. 7, five of the convalescents from fever were affected with that disease; and sus-

pecting that they might communicate the complaint to others, I had them removed to an empty ward, and dysentery appeared in only one instance during the next fortnight.

During the prevalence of this species of fever, there were two cases which were attended with obstinate hiccup ; the first was treated in the common way, by means of stimulants and antispasmodics, andthe patient died, and on dissection the inner surface of his stomach was found in a very morbid condition ; it was as dark as mahogany, and coated with viscid mucus of a brownish yellow colour : the stomach was distended with flatus. In the second case leeches, applied to the epigastrium, were followed by a blister, and mild purgatives and refrigerants were given, with a very sparing allowance of wine ; and the patient recovered from the hiccup and fever. It is probable that the hiccup in such cases depends on a peculiar increase of vascular activity of the mucous membrane of the stomach, and consequently an immediate appeal to stimulants must be a very doubtful measure.

During the course of my practice I have had several opportunities of seeing patients in fevers, more especially those advanced in life, fall into a state of helpless debility, unable to move to either side, with a hot and harsh skin, a quick and weak pulse, a faded, muddy, chlorotic complexion, without any affection of the lungs or brain, or complaint of any thing. They withered, as it were, and one knew

not why. I used to imagine that this state of adynamia arose from want of reaction, or from exhaustion of the vital principle after excessive reaction; in truth I knew not how to explain the matter. Such cases occurred during the present species of fever, in which it was proved by dissection that the mucous membrane of the stomach and intestines was the seat of disease. Instead of giving cordials in such cases, in which I thought our hopes solely depended, I would now apply leeches and large blisters to the abdomen. I would give a mild emetic in some cases, camphor and nitre in most, and glysters, as by such means, with fomentations to the legs and a very cautious use of cordials, I, in several very unpromising cases, succeeded in restoring the patient to health.

It is observable that the lungs were affected in a good many instances, and that cases of the same kind of fever, which was prevalent in summer, now and then occurred in the latter end of autumn and in winter, in several of which the lungs were considerably affected: what had been the epidemic of summer appeared as an intercurrent in winter. On the 4th of November a patient was admitted, who laboured under pure pneumonia.

During the last week of October and first of November, three patients (Sheals, Harrison, and Hanway) were admitted, labouring under a fever which corresponded with the typhus gravior of Cullen. The first died on the eleventh day, the second on the thirteenth, and the third on the eighteenth. In

other respects the cases of these patients resembled each other closely.

All these patients had a measly efflorescence, of which some of the specks were slightly elevated above the level of the skin. About the beginning of the second week of their illness they were in a state of helpless debility, with some stupor. Among other symptoms there was a dirty-pale countenance, with a degree of livid flushing, a dull and inflamed eye, headach, delirium and subsultus tendinum; quick and weak pulse, quick breathing, and some cough. As the disease advanced, these patients came to lie almost entirely on their backs. The tongue became black and dry. The delirium ended in muttering and coma; the feeble pulse in a loss of circulation in the extremities, which became deadly cold for a day or two before death; the purple and bluish patches in the legs in a state approaching to gangrene; and the uneasiness of the bowels ended in involuntary stools.

I could obtain a dissection of only one of the bodies. In it, the effects of vascular activity in the brain were very apparent; but the most striking morbid appearances existed in the mucous membrane of the small intestines and bladder.

With respect to Harrison, when she was brought up stairs to No. 4, I was leaving the ward, but I learned that her bowels were slow, and observed that the epigastrium was full, and that she had a

troublesome cough; and I thought she might possibly obtain relief from the removal of a small quantity of blood. Had I seen her in bed, and examined into the state of the circulation, the hopelessness of her situation would have been obvious. In such cases bleeding, to be of use, must be employed early, or not at all. In criticising my practice, the reader, no doubt, will make allowance for the weight of my charge in the Hardwicke Hospital. The duty of the physicians to the House of Industry is by much too heavy. In the year 1816, exclusive of chronic diseases, one thousand and five patients with febrile diseases passed through my wards.

In cases similar to that of Sheals, Hanway, and Harrison, when advanced, the principal remedies are dilution, cordials, blisters allowed to adhere only seven or eight hours, cold applications to the head, and warm fomentations to the inferior extremities; and very great attention to the bowels ought to be paid.

Relapses, which rarely occurred in summer, were uncommonly frequent in winter; but bleeding, blisters and mild purgatives, by subduing the irritation of the mucous membranes, seemed to prevent the complete re-establishment of the fever. The observations which I made in the year 1816, have led me to believe, that when a patient is threatened with a relapse, bleeding is one of the most effectual means of preventing it. By accident, a patient who came into the hospital on the second day of a third relapse from fever, afforded me a striking proof of the

advantage of this practice. I meant to have ten ounces of blood taken, but the prescription was thought to indicate twenty, which accordingly were removed, and next day I found the patient completely relieved. Two patients who came into the hospital, one in a second, the other in a third relapse from fever, appeared to labour under an inflammatory affection of the peritoneum, which had a great tendency to ascites. Both individuals, as in the instances alluded to above, had several attacks of mucous diarrhœa; both had anasarca. They were repeatedly blooded, leeched and blistered, and after a long struggle they eventually recovered.

About the latter end of November, convalescence was frequently interrupted by the appearance of mucous and bloody stools, and tormina; and this affection was obstinate and fatal, especially in such as were not blooded on its first appearance. About the 21st of November, several convalescents complained of having had tormina and many loose stools during the preceding night; they were all blooded, and all reported themselves relieved thereby. During the prevalence of this species of fever, we had many illustrations of a remark applied by Wagler to the epidemic which he has so ably described: "Le genie "muqueux se combine d'une maniere tres marquee "avec le genie inflammatoire." p. 36.

The inflammatory excitement of the mucous surface of the intestines terminated in various ways. 1st. The general mode of termination was in an

increased secretion from the whole surface of the intestines, the patient, towards the conclusion of the disease, passing four or five loose stools a day, of a natural colour; these, with turbid urine, being the proper and salutary crises of the disease. 2dly. Next in frequency was the discharge of mucous stools, frequently mixed with blood; the disease being converted into dysentery, sometimes mild and manageable, sometimes severe. 3dly. In several instances, the excited capillaries poured out a large quantity of pure blood. 4thly. In one case, instead of the warty ulceration which belongs to dysentery, and which took place in many instances, corroding ulcers were produced, which destroyed all the coats of the intestines. 5thy. In one instance, the dysenteric process was followed by acute peritoneal inflammation; and, as has been remarked, effusion of serum was frequently the consequence of a lower degree of inflammatory excitement. 6thly. A layer of coagulable lymph was formed near the pylorus, which extended to the duodenum, and covered a very considerable portion of the mucous membrane. The four last modes of termination were illustrated in the cases of Connolly, Dromgoole, Douglas and Maguire, of the three first of which I shall give an abstract.

Connolly's fever, although attended with great debility, did not resemble that which I have described as being fatal to Sheals, Harrison and Hanway. The petechiæ were of the common kind; the balance of the circulation was as much disturbed, but in a different way. The brain was not oppressed, the

eye was not glassy, the countenance, though languid, was expressive. The whole of the inner surface of the intestinal canal was much diseased, as together with the usual symptoms of uneasiness and fullness there was also great irritability of the stomach, which for several days rejected all nourishment and drink; there were mucous stools; and an immense loss of blood took place from the excited surface of the bowels. After some improvement in her situation, she finally sunk about the end of the fourth week. Her arms were of a purple colour, (without mottling or extravasation,) as if from uniform congestion in the superficial veins. The case of this patient was peculiarly deserving of attention, from the change of character which took place in its progress. When she arrived in the hospital, the symptoms were referable chiefly to a diseased state of the intestines; these symptoms disappearing, it seemed to me that pulmonic congestion took place with plethora in the venous system. This was apparent from her laborious breathing, from the coldness and purple redness of the extremities, the circumscribed flushing of the face, the suffusion of the eyes, and finally, from the great debility arising from imperfect circulation in the brain.

Having known hæmorrhage from the bowels in fever to prove critical, I should think it very unsafe to attempt to check it by means of astringents. When necessary, it may be treated by purgatives and refrigerants. Portal very properly observes of such a case, "qu'il convenait, de diminuer la quantité de "sang par un saignée du bras," &c.

When Dromgoole was admitted, on the 11th of November, he was in the 22d day of fever. He had a quick indistinct pulse, white tongue, and pale countenance. As he was considerably emaciated, and had a cough, I apprehended that his fever would end in hectic. On the 26th and 27th days of his illness I began to have hopes of him. On the evening of the 27th, however, he had a rigor; and next morning I found him dying, apparently of peritoneal inflammation, of which the rigor was the first intimation. Of peritoneal inflammation he actually died, but it arose from the escape of the contents of the intestines into the cavity of the peritoneum, through an aperture of the ilium, formed by ulceration. There were several ulcers in the neighbourhood of the aperture, in different degrees of advancement; one of these had destroyed all the membranes except the serous, the others were less advanced. It is worthy of remark, that although a mortal disease was forming in the intestines, there was nothing in this man's case previous to the 27th, which led me to suppose that his bowels were much diseased. From what I witnessed in the winter of 1816, I am persuaded that obstinate and fatal relapses after typhoid fevers are often attributable to inflammation, and perhaps ulceration of the villous coat of the intestines.

Douglas had been much exposed to cold and hardships, and for about a week he had been affected with an illness, the chief symptom of which was a diarrhœa. The diarrhœa stopt suddenly about nine

days before his admission into the hospital, on the 5th of December, during which time he had no motion. His belly was very tumid and tense, particularly over the navel, and very tender, and he instantly rejected every thing which he swallowed, his pulse being small and quick. On the second day after admission he was in a state of extreme debility, and began to vomit stercoraceous matter, although with little straining; his bowels resisted every means employed to procure a discharge, and he died on the 8th of December. In the dissection we found coagulable lymph covering the small intestines, and adhering to the inflamed peritoneum. The mucous membrane of the stomach and small intestines was much diseased in the manner already described. That of the great intestines was studded with bright red eminences, such as belong to dysentery.

Macguire's was a case of fever with bronchial inflammation, and inflammation of the mucous membrane of the stomach; but as I saw him only once, and received a very imperfect account of his case, I am not able to add any thing to the account of it which will be found in the appendix. This was the only dissection in which we found coagulable lymph formed upon the mucous membrane of the intestines.

On the 14th of December, a patient was admitted on the eighth day of rheumatic fever, and I had to admit three more cases of that disease, before the year expired.

Early in January fevers combined with inflammation of the bronchial surface began to appear. During November and December, stitches and coughs were not unfrequent. But during the first fortnight of January, I took six or seven patients into the hospital, in whom the most striking symptoms were evidently produced by bronchial inflammation.

The symptoms of this species of fever were a purple complexion and a glassy eye; a white tongue with purple edges; laborious wheezing respiration, which, although it required the head and shoulders to be elevated, was not at first quick, and there was a pause between the expirations and inspirations; cough in suffocative fits, with difficult expectoration of viscid mucus; head-ach, which was greatly aggravated by the cough; oppressive weight at the epigastrium, and great prostration of strength. The pulse was by no means hard, nor indeed was it always quick. Petechiæ appeared in only one instance. The disease ended favourably, when freedom of expectoration took place; unfavourably, after the manner of peripneumonia notha.

In the dissections which were made, the lungs did not collapse. The mucous membrane of the bronchiæ was of a bright red colour, and much thickened. The condition of the membrane became more remarkable, as the bronchial canal diminished in diameter. The secretion from it was very viscid, and in one of the cases it had the colour of purulent matter. The inner surface of the stomach and in-

testines presented the same appearance of disease which it had done in the dissections which were made during the preceding three months.

The circumstance which induced me to bleed in these cases was the absence of expectoration, or the failure of it when it had been established. Blisters, purgatives and expectorants, such as ipecacuan and calomel, carbonate of ammonia, seneka, squills, and camphorated tincture of opium, were more relied upon than blood-letting. Small bleedings repeated, seemed more appropriate than large. Free blood-letting, however, was tried in only one instance, and that unsuccessfully (Toole). The patient declared, that his life had been saved by bleeding to a large extent during a former attack of the same complaint, and implored me to permit him to be blooded. I must say, however, that I thought him in a dying state, when I yielded to his earnest entreaty. In this man's case, complete recovery was probably incompatible with the degeneration of so large a portion of the pleura into cartilage.

These cases of fever, with bronchial inflammation, took place in the snowy and stormy weather of the latter end of December, and they probably would have been more numerous had such weather continued; but the month of January was extremely mild and dry, with occasional high winds; and during February the weather was open, and hence probably it was, that the winter in Dublin was as healthy as the summer, notwithstanding the badness

of provisions, the potatoes being wet and flavourless, and the bread malty or musty; and notwithstanding the scarcity of fuel, for the colliers were wind-bound for nearly three months, and the supply of turf was deficient, owing to the wetness of the preceding season.

In some fevers which were attended with cough, pain in the chest, and quick and laborious breathing, but without any particular change of complexion, blood-letting produced the very best effects. In several instances, the buff on the surface of the blood was as thick as ever I saw it in pleurisy, or acute rheumatism.

On the 4th of January, there was an instance of sudden death in No. 1, which took place while the patient appeared in progress of recovery. Three fatal cases of eclampsia, which took place during apparent convalescence from fever, occurred in the course of three years to my predecessor, Dr. E. Percival; one such case occurred to me. But the individual who died on the 4th of January had not any convulsions. He came from the House of Industry, and was rather a worn-out subject. His fever had been accompanied with pulmonic inflammation to a considerable extent, which however had abated, and his cough had become less troublesome. On the night of the 3d, he disturbed the patient who lay in the bed next to him, and indeed all the other patients in the ward complained of his talkativeness. He was reported by the nurse "to have made his bed

" stoutly, and to have taken his breakfast heartily," just before the supposed time of his death. That he ate his breakfast heartily I believe was not the case, for we found not more than one or two spoonfuls of a milky fluid in his stomach. The making of his bed was an exertion beyond his strength, and perhaps he sunk in consequence of it. The dissection of his body was very carefully made, but although there were morbid appearances, none was discovered which explained the cause of his sudden death. We have frequently fever patients in the Hardwicke Hospital who are subject to epilepsy. In the course of my attendance, three of these have had a paroxysm after the abatement of fever, without having their recovery retarded thereby.

On the 12th of January, in the dissection of a patient who died on the 11th or 12th day of a fever, which was attended with great stupor and prostration, we, for the first time during nearly four months, found the mucous membrane of the intestines scarcely affected. Indeed the vascularity of the affected portion of the membrane was so little increased that we might have overlooked it, had not our knowledge of the morbid state of that surface been rendered more accurate by frequent observation and comparison. The diseased appearance was partial and slight, and, pathologically speaking, it was probably of little importance.

In the latter end of January, fevers similar to those which are described in the beginning of this report again become common, but they were much

oftener attended with petechiæ, and a brown and dry tongue, the sensorium was more affected, and the stage of debility appeared earlier.

In the early part of the month of February, I think I discovered three kinds of fever in my wards at the same time.

1st. There were a few cases of the fever which prevailed during all the winter.

2dly. Six or eight cases of a fever in which the expression was in general dejected, the strength prostrate, the countenance pale, or, if flushed, it was muddy and appeared sordid, the skin of the body of a pungent heat, was almost always spotted with petechiæ, the extremities apt to be dry and cold, the tongue as if lightly dusted with chalk, and tremulous, as the disease advanced, it became shrivelled and brown; the bowels confined, the urine pale. The patient vertiginous, in a state of delirium or fatuity, and what was curious, sometimes he was conscious of the bewildered state of his mind. Towards the end of the second week he became soporose, being much confused when roused, but in the course of three or four days more his sleep became more natural, and this natural sleep, together with a break in the urine, and loose stools, were in general the only circumstances which could be counted critical, as the skin seldom yielded till convalescence was somewhat advanced, and then breathing sweats took place. The disease in general

extended to the end of the third week, œdema of the inferior extremities took place in three of the convalescents. In looking over the daily reports of six cases of this kind of fever, I find that only one of the patients was blooded, and one was cupped; all the six recovered.

3dly. The prevailing disease would, by most physicians in these countries, have been termed synochus, but it leant more to typhus than to synocha (unlike the kind of fever which prevailed in summer, which leant much more to synocha than to typhus) the patient's expression was, in general, anxious, the complexion very high, skin hot, petechiæ pretty frequent, the tongue white or grey, and furred with florid edges, great thirst, the nostrils dry, the bowels confined, the urine scanty and high coloured. The intellect was frequently unimpaired. The lungs were very often engaged, and towards the end of the month, and in the beginning of March, many of the patients expectorated mucus tinged with blood. On the 8th of March there were four patients in No. 1. and three in No. 4, who had expectorated mucus tinged with blood. Upon the decline of the fever, a numerous crop of vesicles, more especially on the hands, appeared in several of the patients; in one instance the vesicles were as large as the ordinary bullæ of pompholyx.

In general, these two kinds of fever were unlike each other during all their stages. Nay, during convalescence, one might tell the difference between the two classes of patients, the convalescents from

the former kind of fever were much longer weak; they were strikingly pale. They continued deaf, vertiginous, dull of apprehension, and childish, and they were also longer in regaining flesh as well as strength. In March, and more especially towards the end of that month, the former gained upon the latter kind of fever, being however more generally attended with flushing of the face and suffusion of the eyes, and with dun petechiæ; of such cases there were six or seven in each ward on the 31st of March, three from one house, and two from another. In several instances leeches were applied to the temples, or the temporal artery was opened. Some few who had cough along with a marked determination to the head, derived benefit from the removal of eight or ten ounces of blood from the arm, in the early part of the disease. The belly was kept open throughout, and the occasional interposition of the calomel bolus of the hospital was of great use.* The head was shaved, and, together with the face and neck, was sponged with cold water and vinegar; the feet were fomented with warm water. Diluents were freely given, especially cold water; about the 11th or 12th day the patients required wine. I began with four ounces, and generally increased the allowance to eight ounces, but never exceeded that quantity. Blisters were always applied.

On the 10th of February I admitted a patient whose case differed from all the modes of fever which I have hitherto referred to, and hence I shall short-

* Hydrarg: submur. grana quinque; Elect: Sennæ ʒss.

ly describe it. Without being flushed the heat of surface was great (Temp. 108). She had a preternaturally clean tongue, which in the progress of the disease became aphthous. She had pains in her bones, a dry cough with difficult expectoration, which last symptom, however, I believe was accidental. Convalescence did not begin to take place till the middle of the fourth week. Two cases of this kind of fever occurred in the month of November, the patients, both young women, were ward-maids in the Lying-in-hospital. In these individuals with a quick pulse, great heat and a measly efflorescence of the skin, there was suspirious breathing, and prostration of strength. The tongue was florid, and towards the end of the disease it became preternaturally clean and glazed. A peculiar change of countenance took place in both, namely, a pale, fixed, or rather stern look, without any sinking of the features; the nights were delirous, the days quite calm. The disease abated very gradually without any critical discharges. Convalescence was tedious, and the patients continued long pale and weak.

The last dissections which I shall comment upon are those of Boyd and Williams, whose cases resembled each other very much. I was very desirous of having the body of Boyd examined, for two reasons; to endeavour to ascertain, first, the cause of the uniform purple colour of the hands and arms—the same appearance already mentioned in alluding to Connolly's case; and secondly, whether the rigor was symptomatic of suppuration.

The lungs proved in both dissections to be the organ chiefly diseased, and the disease existed in the mucous membrane. But the appearances were very different from those witnessed in the dissections of Macguire, Toole, and Woods. The membrane was not thickened, nor of so bright a colour; yet it was not merely in a state of suffusion; the minute vessels were numerous, and the divisions of the bronchia were full of a mucous fluid, which for the greater part was deeply tinged with blood. The lungs did not recede when the thorax was opened. The state of the bronchial membrane, its being inflamed and coated with mucus, was probably the cause of the congestion of blood in the right side of the heart, and in the venous system.—Are the gangrenes in the lower extremities, and the blue nose in fevers, connected with obstructed circulation in the lungs?

The dissection did not throw any light upon the cause of the rigor. A rigor sometimes belongs to an unfavourable as well as to a favourable crisis. In the fevers which prevailed in summer a rigor was always followed by a favourable crisis; but in fevers, especially in the upper ranks of life, in which the brain is much affected, which are early attended with typhoid debility, and more especially with irregular or anomalous symptoms, an unfavourable crisis is apt to follow a rigor.

With respect to the cutaneous affections which accompany fever, I shall at present confine myself to

an enumeration of such as I witnessed in the course of last year. They may be classed under the heads of,

First, Stigmata; namely the dun, the bright red, the violet, and the inky petechiæ. The first are not unlike freckles, but of a less clear yellow.

Secondly, Papulæ. Red papulæ are often found intermixed with,

Thirdly, An efflorescence not unlike measles. In this efflorescence, which is sometimes very bright, we now and then discover every patch elevated above the surface of the skin; in the last case of this kind which I examined, there were no papulæ.

Fourthly, Vesicles. Of this kind is the whole miliary.

Fifthly, Pustules. The only specimen of these is the red miliary, which sometimes ends in very minute points of suppuration.

The first, second and third were very common appearances; the fourth and fifth occurred in only one instance each. Some of the first class are removable by cool air, purgatives and bleeding; but I am by no means convinced that the second, third, fourth or fifth are merely the effects of an improper regimen, although this be now a generally received opinion. The vesi-

cles which appear on the hands and wrists at the termination of many fevers, and round the mouth at the end of febriculæ, are not included in the above enumeration.

Intermittent fevers very rarely appear in the fever hospitals of Dublin. During 1816 there were only two instances of that disease; both individuals were from some of those parts of the line of coast to the north of Dublin, in which ague is endemic.

In only one instance was it reported to me that the patient had passed a lumbricus. Had worms been frequent, the nurses must have detected them; for in the summer of 1816, I ordered the boards which cover the seats of the water-closets* to be nailed down, that we might no longer have the imperfections of the water-closets assigned as the cause of every foul smell in the wards; and hence had worms been voided, they could not have escaped the observation of the ward-maids.

The dimensions of our wards, and the unceasing attention which all the physicians pay to ventilation and cleanliness, preserve the servants of the institution from fevers. The Hardwicke Hospital is frequented by the apothecary and his apprentices, and

* Our water-closets, it is true, were not sufficiently supplied with water; and unless there is a profusion of water, the hospital water-closet is an abomination. Keep it as clean as you may, it will have an offensive smell during certain states of the atmosphere.

the matron; and for the greater part of last year there were sixteen nurses and deputy nurses employed; these, together with the porter and his wife, who receive every patient upon admission, and reside in the hospital, formed an aggregate of twenty-three persons who were exposed to febrile contagion; but it is rendered so dilute by thorough ventilation, that in the course of the last year, there was no case of fever among them.

I shall conclude this report with some observations upon the tables which are attached to it.

The first table contains an account of the number of admissions and deaths; of times that blood-letting, leeching, and cupping and scarifying were performed, and the number of ounces of port wine, pints of punch and pints of porter ordered, in wards 1 and 4, during twelve months, and in ward 7, during six months.

It appears from the first column of the first table, that of the adults admitted, 306 were males, and 318 females; a greater excess of the latter might have been expected, the females in the House of Industry being far more numerous than the males.

Second column—deaths. Of the males (adult) twenty-eight died; of the females fifteen; being nearly one in eleven of the former, and only one in twenty-one of the latter. The total deaths amount

to one in fifteen nearly. The causes of so considerable a mortality have been already specified.

Third, fourth, and fifth columns—number of blood-lettings, leechings, and cuppings. Probably about one half of the patients were either let blood, leeched, or cupped and scarified. In many patients these operations were performed two or three times, and in many both general and topical bleeding was practised. Ten ounces formed the average quantity removed from the adults at each blood-letting.

Every one knows that Sydenham used the lancet freely in the treatment of fevers. In his directions relative to the treatment of the plague may be found an anticipation of the practice which has been successfully applied to the worst species of endemic fevers. While he recommends the patient to be let blood early and largely, he affirms that blood-letting will be injurious, if sparingly or tardily performed. Also, in case of determination to any particular part taking place during a fever, Sydenham had his patients let blood; thus he had them bled when headach with delirium, when cough and oppression of breathing, when looseness took place, and so on. He understood the two-fold virtue of blood-letting; he knew as well as any of our contemporaries, that it has the power of often preventing the complete formation of a fever, when it is seasonably used, and that the symptoms which arise from inflammation of the viscera during a fever, are moderated by blood-letting.

The physcians of the early part of the last century followed the practice of Sydenham. The practice of the middle of the century may be learned from the writings of Sir John Pringle and Grant. Pringle ordered blood-letting in all fevers; even in the jail or hospital fever he generally took away some blood. Grant was well aware of the virtues of the lancet in fevers, as may be learned from his cases. "Even in the putrid diathesis," says Grant, "when much evacuation is required, more or "less blood ought to be taken, according to the "strength of the patient, before proceeding to other "evacuations."

Some of my contemporaries at Edinburgh, about twenty-three years ago, may recollect the practice of Dr. Francis Home, who, as a regimental surgeon, served in the Low Countries while Sir John Pringle was physician to the army. Dr. Home sometimes had patients in fever let blood, to the scandal of his clinical pupils, who were convinced that fever was sustained by a spasm of the minute vessels, or that all its symptoms were symptoms of mere debility. Hence they thought the learned Professor a homicide, whose hands ought to have been tied up by the managers of the Royal Infirmary, and they admired the skill of those physicians who, while they gave their patients in fever three or four pints of wine a day, forced them to swallow a reasonable quantity of the shop cordials in addition.

But before Dr. Home's death it again became cus-

tomary to abstract blood in certain modes of fever. In fever attended with flushing and severe headach, or with cough and oppression of the breathing, leeches and venesection were again prescribed. The revival of Sydenham's practice arose from a concurrence of circumstances, but it is probable that the salutary change was chiefly produced by the writings of Dr. Jackson, and the acknowledged utility of blood-letting in the endemic fevers of warm climates. We must not however forget our obligation to Dr. Clutterbuck, nor the effect produced by the work of Beddoes, the chief object of whose "Researches" was to shew that dissections after fever always bring to light marks of inflammation. Then came Dr. Sutton, who used the lancet with great boldness and success in a fever which occurred among the troops at Deal.

In this country we are under considerable obligations to Dr. Mills, who first stept forward to disabuse us of our prejudices against blood-letting in fever; and I gladly offer my acknowledgments to him for permitting me to attend the Cork-street Fever Hospital, while he was making his clinical experiments. Before I had the pleasure of being acquainted with Dr. Mills, it was my practice to take blood in cases of fever with determination of blood to the head or to the lungs; and notwithstanding the oddness of the expression, I had been struck with the proposal made by Beddoes, of applying leeches "by relays of dozens," when inflammation of the intestines was suspected. But I was not prepared to employ blood-letting as a remedy for fever with irritation of

the abdominal viscera, until I saw that all the patients in the summer fever of 1812, in which the abdominal viscera were chiefly affected, were let blood by Dr. Mills's order, many of them with relief, although the quantity never exceeded six ounces, and none of them, as far as I could perceive, with detriment.

But while I avow my faith in the virtues of that remedy, I hope the reader will not suppose that I am an advocate for indiscriminate bleeding, more especially when the disease is established. In quoting with approbation the following passage from Grant's excellent work on fevers, my opinion on this subject will be apparent. "I know," says Grant, "two persons, both in considerable practice, and both honest "men, who have constantly treated this fever (synochus non putris) erroneously, by opposite methods; "one persisted in the antiphlogistic method too "long, the other quitted it too soon; one evacuated "too freely and too frequently, the other too sparingly and too seldom; one never gave cordials, "nor opiates, nor good nourishment; the other, after "the first four days, ordered nothing but cordials, "opiates and animal food. A compound of these "two would have made a good physician. Their "error, however, was not equally fatal; the patients "of the first seldom died, but their recovery was "slow and imperfect; the patients of the other frequently died."

In order to examine the merits of blood-letting more particularly, I have endeavoured to class the

deaths which occurred under different heads. This classification will be found in the last column of the second table, in which the patients who were let blood, or who were not let blood, have a B or a NB opposite to their names. This column also contains a reference to those patients who died of other diseases than fever. I have already stated that a considerable number of the patients admitted into the Hardwicke Hospital, probably one in twenty, labour under some of the phlegmasiæ, or some chronic disease, with a quick pulse and loaded tongue. In this class of patients the mortality is very great. I must observe that many of the patients who were let blood in the latter end of October, November, December, and beginning of January, laboured under dysentery, and some of these persons were let blood four or five times.

1025, Patrick Martin, and 1057, Laurence Hynes, died during my absence from the hospital.

526, Maria Dillon, probably died of the effects of the operation of phlebotomy. Round the puncture inflammation took place, which rapidly degenerated into gangrene; the operation was performed before she became a patient of mine. 796, Elizabeth Synnott, was let blood rather with a view of abating her sufferings, than from any expectation of saving her life. 1057, Andrew Wilson, 1461, Jane Harrison, 18, Anne Woods, ought not to have been let blood, and 21, John Toole, ought not to have been bled to so large an amount: perhaps there was no

method of treatment which would have ensured the safety of those individuals; but by bleeding in such cases we bring that excellent remedy into discredit.

On the other hand had 1147, William Smyth, 1177, Bridget Caulfield, 1530, Michael Rogers, 1572, Mary Graham, 3, Thomas Macguire, 244, Mary Anne Williams, been let blood more early or more fully, I think it likely that their lives would have been saved. Rogers was probably lost from the non-execution of my orders.

752, Thomas Synnot, 1204, Bridget Connor, 1308, Patrick Keogh, 1328, Bridget Glennon, 1583, Thomas Meade, died of the sequelæ of fever; and I think it might become a question, whether more free blood-letting in the acute period of their illnesses might not have saved their lives.

Sixth, seventh and eighth columns of Table I. Wine, punch, and porter.—8287 ounces amount to about twenty-seven dozen and seven of such bottles as are served to the hospitals. This quantity among 780 patients gives an average of rather less than eleven ounces to each. In May and June there were eighteen or twenty bottles used by one individual. I have already assigned my reasons for disapproving of punch as a cordial. About a third part of the porter was given by me to one or two of the nurses, who, from delicate health, were scarcely equal to the fatigues of their situation.

Some particulars relative to the death of every individual are appended to Table II. The modes of fever which occurred in the Hardwicke Hospital, especially during the winter, are illustrated pretty fully by dissections. These dissections were made with great care by my young friend Mr. E. Macdowel of the Royal College of Surgeons, who, when it was not in my power to be present at the dissection, preserved the morbid parts for me, that I might compare them with his written report; and it is but justice to say, that all his reports were remarkable for their accuracy.

TABLE I.

1816 & 1817. Month.	No. of Ward.	No. of Admissions.	No. of Deaths.	No. of Blood-lettings.	No. of Leechings	No of Cuppings.	Port Wine. No. of Ounces.	Punch. No. of Pints.	Porter. No. of Pints.
April.	1	27	1	30	13	1	672	1	69
	4	33	1	12			152	7	89
	7	23	2	11	1		120		25
May.	1	25	2	39	6	3	520		87
	4	34		21	5	1	192	5½	57
	7	35	1	10	3		136		14
June.	1	24		21	6	2	344		108
	4	26	1	22	2	2	144	½	33
	7	27	1	14	5		148	1	1
July.	1	30	3	31	5	7	340		25
	4	25		32	4	2	356	2½	55
	7	40	2	30	8				4
August.	1	28	3	33	9	1	214		53
	4	22	3	28	7	2	364		82
	7	8		7	7		56		2
September.	1	31	4	5	7		294		10
	4	29	1	13	6		316	2	30
	7	23	3	4	8		24		
October.	1	22	3	18	8		490	½	
	4	29	1	11	6		534	4	80
November.	1	30	4	20	9	3	94	3½	11
	4	24	2	20	14	2	178		43
December.	1	26	3	33	9	2	157		
	4	30	1	17	1	1	68		19
January.	1	24	3	26	6	1	466		2
	4	21	2	18	3	1	246		31
February.	1	21	1	6	3		578	2	17
	4	19	1	13		1	298		28
March.	1	20	1	20	4	1	342		6
	4	26	3	22	6	2	244		30
Total,		780	53	587	171	35	8287	29½	1011

PAKENHAM BEATTY,

Apothecary.

TABLE II.

Extracted from the Registry of the Hardwicke Fever Hospital.

No. of days sick before admission.	No. in the Registry.	Name.	Age.	Religion.	Born.	Occupation.	Admitted.	Ward.	Died.	Remarks.
9	479	Peter Carrol	8	R. C.	Dublin		April 1	7	April 16	N. B.
2	503	Est. Mullen	8	R. C.	From Bedford Asylum		April 3	7	April 5	N. B.
4	517	Margaret Dunn	5	R. C.	Dublin		April 9	7	May 11	Small Pox
5	526	Maria Dillon	30	R. C.	Dublin	Servant	April 11	4	April 16	B.
	696	Eleazer Sheldon	60	Quaker			May 17	1	May 17	N. B.
4	714	Luke Glennon	50	R. C.	Co. Roscommon	Labourer	May 20	1	May 26	N. B.
2	752	Thos. Synnot	8	R. C.	From B. Asm.		May 20	7	June 24	B.
3	778	Mary Sherridan	22	R. C.	From Chronic Hospital		June 1	4	June 16	Tubercles in the brain.
2	795	Elizabeth Sinnot	10	R. C.	From B. Asm.		June 5	7	June 7	B.
8	1025	Patrick Martin	20	R. C.	Cork	Police Officer	July 20	1	July 23	B?
5	1026	Laurence Hynes	32	R. C.	Co. Louth	Servant	July 20	1	July 22	B?
2	1029	James Scott	5	R. C.	From Bedford Asylum.		July 20	7	July 30	Hydrocephalus.
3	1055	Elizabeth Doyle	11	R. C.	Do.		July 24	7	Aug. 10	Do.
9	1057	Andrew Wilson	45	P.	Dublin	Sadler	July 25	1	July 28	B.
2	1094	Mary Daly	70	R. C.	Co. Down	Servant	Aug. 3	4	Aug. 14	N. B.
1	1095	Wm. Carrigan	39	P.	From House of Industry		Aug. 1	1	Aug. 28	N. B.
4	1107	Mary Walsh	30	R. C.	Dublin	Servant	Aug. 6	4	Aug. 12	Pneumonia.
2	1147	William Smyth	48	R. C.	Dublin	Porter Lying-in-Hos.	Aug. 15	1	Aug. 19	B.
7	1177	Bridget Caulfield	14	R. C.	King's Co.		Aug. 21	4	Sep. 3	B.
2	1203	James Mahony	9	R. C.	From B. Asm.		Aug. 30	1	Sep. 2	N. B.
5	1215	Bridget Marlow	45	R. C.	Co. Meath	Servant	Sep. 3	4	Sep. 9	Chronic disease.
2	1264	Bridget Connor	4	R. C.	From B. Asm.		Sep. 13	7	Oct. 17	B.
4	1277	Richard Gibson	44	P.	From House of Industry		Sep. 16	1	Oct. 8	N. B.
1	1285	John Fitzpatrick	50	R. C.	Do.		Sep. 17	1	Sep. 25	N. B.
1	1286	Robert Fleming	17	Pn.	Do.		Sep. 17	1	Sep. 22	N. B.
1	1308	Patrick Keogh	4	R. C.	Do.		Sep. 20	7	Dec. 13	B.
2	1322	John Macomb	40	P.	Do.		Sep. 25	1	Sep. 29	Emaciated Lunatic.
3	1328	Bridget Glennon	13	R. C.	From B. Asm.		Sep. 27	7	Oct. 28	B.
8	1368	Thomas Parker	45	P.	Dublin	Labourer	Oct. 9	1	Oct. 14	N. B.
5	1409	Ben. Farlow	11	R. C.	From B. Asm.		Oct. 18	1	Oct. 21	N. B.
7	1445	Anne Sheale	29	R. C.	Co. Wicklow		Oct. 28	7	Nov. 1	N. B.
10	1457	Robert Hanway	30	P.	Co. Carlow	Weaver	Oct. 31	1	Nov. 9	B.
4	1461	Jane Harrison	30	R. C.	Co. Armagh	Sold.'s Wife	Nov. 1	4	Nov. 6	B.
22	1496	Peter Dromgoole	25	R. C.	Co. Meath	Servant	Nov. 10	1	Nov. 18	N. B.
8	1523	Mary Connoly	20	R. C.	Dublin	Servant	Nov. 17	4	Dec. 2	B.
10	1524	Mich. Sherridan	45	R. C.	From House of Industry		Nov. 17	1	Nov. 22	Cephalitis?
7	1530	Michael Rogers,	14	R. C.	Co. Longford	Servant	Nov. 20	1	Dec. 24	B.
8	1535	James Stevenson	33	P.	Co. Donnegal	Watchman	Nov. 20	1	Dec. 22	Hepatitis.
10	1571	Mary Graham	50	R. C.	Co. Tyrone	Servant	Dec. 3	4	Dec. 25	B.
8	1577	James Douglas	62	Pn.	Scotland	Labourer	Dec. 4	1	Dec. 9	N. B.
13	1583	Thomas Meade	58	R. C.	Co. Louth	Weaver	Dec. 6	1	Jan. 11	B.
5	1634	James Matthews	55	R. C.	From House of Industry		Dec. 18	1	Jan. 3	N. B.
5	3	Thomas Maguire	25	R. C.	Co. Louth	Gardener	Jan. 2	1	Jan. 4	B.
10	18	Anne Woods	20	R. C.	Dublin	Servant	Jan. 8	4	Feb. 4	B.
4	21	John Toole	27	R. C.	Co. Galway	Soldier	Jan. 8	1	Jan. 16	B.
8	26	Mary Byrne	40	R. C.	Co. Dublin	Servant	Jan. 8	4	Jan. 12	N. B.
6	73	Wm. Lawless	45	R. C.	King's Co.	Watchman	Jan. 23	1	Feb. 2	Pulmonic abscess?
8	167	Anne Boyle	30	R. C.	Co. W. Meath	Servant	Feb. 22	4	Feb. 28	N. B.
3	170	John Barry	28	R. C.	Co. Meath	Labourer	Feb. 24	1	Feb. 25	Pleuritis
9	214	Thomas Murphy	28	R. C.	From Chronic Hospital.		Mar. 9	1	Mar. 16	Hemiplegia
	210	Margaret Walsh,	30	R. C.	King's Co.	Servant	Mar. 16	4	April 8	Chronic disease.
5	244	Mary A. Williams	22	R. C.	Co. Wexford	Servant	Mar. 16	4	April 3	B.
4	273	Anne Bailey	45	P.	Dublin	Servant	Mar. 26	4	April 4	N. B.

479, Peter Carrol, was one of several children of the same family who laboured under fever. The chief symptom of his disease was great irritability of the stomach.

503, Esther Mullen. At the period of her admission she was much emaciated, and her hands were purple, and her stomach rejected all kinds of drink or medicine. She appeared in a dying state when I first prescribed for her.

517, Margaret Dunn, died of the sequelæ of confluent small pox.

526, Maria Dillon had been let blood before her admission into the hospital. The arm round the orifice became extremely gangrenous, and she died in consequence of the gangrene.

696, Eleaz. Sheldon, was *in articulo* at the time of admission—He died in two or three hours.

714, Luke Glennon. At the time of his death this man had five children in my wards, labouring under fever. The first alarming symptom was a complaint of total debility: he lay supine, and had involuntary stools. For the last two or three days of his life he was without a complaint.

752, Thomas Synnot. The disease under which this boy laboured on admission, appeared to be subdued by three bleedings, blistering, &c.; but he

afterwards became cachectic and died. The cause of his decay was not ascertained.

778, Mary Sheridan. Distress at the præcordia, headach, and strabismus, were the most remarkable symptoms of this patient's illness.

Disection. Small tumours, the largest of the size of a pea, were attached to the cerebral surface of the pia mater, lying between the convolutions of the brain: they were firm, of a whitish yellow colour, and contained puriform fluid. Similar tumours were seated in the medullary substance of the brain, over the left ventricle. In the lateral ventricles there were small bands of coagulable lymph stretching from side to side. The sides of the third ventricle were coated with coagulable lymph. There were tubercles in the cerebellum. The anterior surface of the medulla oblongata was coated with coagulable lymph. The brain was firm.

795, Elizabeth Synnott, sister to 752. Her stomach rejected drinks and medicines. The epigastrium was remarkably tender; her hands and feet were purple; she had an inveterate itch; she was blooded, and sunk in a few hours after. V. S. appeared to accelerate death.

1025, Patrick Martin, admitted on the tenth day of fever, with delirium, hurried respiration, and petechiæ. I did not see this patient, nor the next, being confined to bed.

1026, Laurence Hynes, brought in, in convulsions, and with stertorous breathing.

1029, James Scott. Six ounces of fluid in the ventricles of his brain.

1055, Elizabeth Doyle. Five ounces of fluid in the ventricles of her brain. The right lung was tubercular. These two were cases of acute hydrocephalus. In neither instance was the liver diseased.

1057, Andrew Wilson was brought from a house which contained several persons very ill with fever. He had subsultus tendinum, delirium and stupor. The removal of eight or nine ounces of blood from his arm did him no service ; I rather think it was injurious, but it was not decidedly so.

On dissection the principal appearances were, swoln lividity of the lips, nose and ears ; a quantity of blood oozing from the vessels of the scalp. The smaller vessels of the pia mater turgid. The liver extremely large, filling nearly the whole of the umbilical region.

1094, Mary Daly. This woman had the appearance of great age, and there was a mistake in the registry with regard to the duration of her illness. In fact she was not able to give an account of her situation ; she was comatose, her back was sphacelated, and her stools and urine passed from her in bed.

1095, William Carrigan, admitted on the 3d of August; removed to the convalescent ward on the 11th. A rigor on the 23d, followed by a relapse. The following are the two last reports.

Aug. 26. The oppression of breathing, for which he was blooded twice during the first attack, not observable—complained of headach and great prostration.

Aug. 27. Slept during the greater part of the night. Tongue brown in the centre; edges cream-coloured; had four stools of a dark brown colour, which passed from him in bed; urined in bed; countenance without expression, cheeks rather flushed; supine; muttering; when roused he made no complaint. Respiration laborious, pulse 120; skin parched; extremities warm. At ten o'clock p. m. he became insensible, and at ten a. m. Aug. 28, he died.

1107, Mary Walsh was liable to an asthmatic complaint, probably chronic catarrh. On the first of August, being about two months gone with child, she attended the funeral of one of her children: on her way home she disputed with her husband, and on arriving at her lodgings her passion was very violent. On that evening, or in the course of the night, she aborted. From that period till her arrival in the hospital (Aug. 6th,) she was affected with pain and oppression of the chest, and symptoms of inflammatory fever. She expectorated fœtid puriform matter.

Aug. 7. Oppression of the chest, with considerable pyrexia. Bowels free. *Mitt^{r}. Sang^{s}. ad* ℥xii. *Pil. Hyd. gr. v. h. s.*

Aug. 8. Relief after V. S. Oppression, &c. continued, with pain in the side. *Mitt^{r}. Sang^{s}. ad* ℥viii. *Vesicatorium lateri dol.* ℞. *Pil. Hydrarg.* ℈ss. *Pulv. Ipec. gr.* vi. *Syr. q. s. f. Pil.* xii. i. 4*tis horis.*

Aug. 9. Relieved. Expectorated freely. *Cont^{r}. Pil.*

Aug. 10. Had an attack of diarrhœa—slight uterine hœmorrhage—expectoration free. *Sumat olei Ricini semunciam.* ℞. *Tincturæ Opii gtts.* xxv. *Vini Ipecac.* ℈ss. *Mist. Camph.* ℥i. *m. sumat h. somni.*

Aug. 11. Expectoration ceased last night. The oppression was much greater; respiration 54. pulse 140. *Mitt^{r}. Sang^{s}. ad* ℥x. *Vesicatorium sterno.*

The blood was removed by five ounces at a time, while I remained in the hospital. The first blood was sizy; the second, which was removed in fifteen minutes after, was not—serum in both very turbid. She thought she felt relief from the first small bleeding; after the second, her breathing became quicker, in the evening it was sonorous and difficult, and there was a circumscribed flush on her cheeks.

Aug. 12. Very weak—breathing laborious. She wished for, and was allowed a small quantity of wine. At 12 o'clock at noon she died.

Dissection. The liver descended lower than natural, but was not diseased. The uterus had contracted; its vessels were large, and there was a corpus luteum in the left ovary. There was an adhesion of the posterior surface of the right lung, at which part the lung was hepatized and enlarged, pushing the liver downward and forward. A portion of the lung, which was removed, sunk rapidly in water. The inferior and posterior part of the lung of the left side was adherent; a portion of it also was in a state of inflammation. A sacculus was found in it, which contained about a drachm of purulent matter, and communicated with the bronchiæ; by much the greater part of this lung was healthy. The gall bladder was small, and filled with calculi and mucus.

1147, William Smyth, gate-keeper at the Lying-in-Hospital. On the morning of August 14th, restlessness, headach, continued nausea and vomiting, tongue loaded, countenance flushed, skin hot and dry, pulse 120, strength prostrated. He was perfectly well on the evening of the 13th, but had a shivering fit in the course of the night. *Mistura Cathartica e Senna*, &c.

August 15th. Removal to the Hardwicke Fever Hospital.

August 16. Bowels free—restless night—oppression of chest increased, and accompanied by a very distressing cough, and pain in the right side. *Mitt^{r}. Sang^{s}. ad* ℥x. *Mistura Sennæ cum Camphora,* ℥*i. 4tis horis.*

Aug. 17. Bowels free ; cough rather less distressing and looser ; dyspnæa and pain rather abated. *Mitt^{r}. Sang^{s} ad* ℥x. *Vesicatorium lateri dextro. Cont^{r}. Mist.*

Aug. 18. V. S. Relief after reported. Increase of cough and dyspnœa in the afternoon, at which time expectoration ceased. Very miserable night, Orthopnœa ; livid complexion ; respiration 50 ; pulse 120-30. I ordered a vein to be opened, but after a few ounces of blood, which was sizy were removed, I desired it to be tied up, as his respiration became more hurried. *Cataplasma Sinapeos sterno. Pil. Hydrarg. gr. iii. P. Ipec. gr. ss. s. 4tis horis, superbibendo Misturæ Camphoræ unciam, cum Tincturæ Opii Camphor. gtt.* xx. *Horis intermediis, vini* ℥*ss.*

August 19. He died in the course of the night.

Dissection. Small intestines much distended with flatus. Colon empty and contracted. Gall-bladder distended with bright yellow bile. On the right side there was a scrotal omental hernia, but it had not been the seat of inflammation. Left lung sound, and free from adhesions—effusion into the cavity of the chest. On the right side there was an adhesion

between the lung and pleura, extending from the first to the fifth rib, and from the sternum in front to the vertebræ. The upper and back part of the lung exhibited every mark of recent inflammation. It was of a solid consistence, and on cutting into it, a puriform fluid flowed from all its cellular structure. The bronchiæ were filled with a similar fluid, and on removing it, numerous red vessels of the mucous membrane appeared. The inferior portion of the lung was sound, and there was a distinct line of demarcation between the healthy and inflamed part.

1170, Bridget Caulfield. For the first three or four days her fever was not attended with alarming symptoms. Then she screamed, and kept the ward awake for two or three nights. Then delirium and dilatation of the pupil came on, with flushing to a great degree, cough, oppression of the præcordia, and large purple spots on several parts of the body.

1203, James Mahony. On the 31st of August, (the day of his admission,) he was ordered a purgative. His head was shaved and sponged, and leeches were applied to his temples. He died the first of September.

Dissection. Slight yellowness of the skin, and conjunctiva. Liver large, of a yellow colour, with a mottled surface. Gall-bladder empty and collapsed. Adhesion of lung to a portion of the pleura, which

lined the fourth rib of the left side, a small scrofulous tumour in the substance of the lung at this point. The minute vessels of the cortical substance of the brain were turgid, giving that part of the cerebral mass a very red colour. The plexus choroides was turgid. The ventricles contained rather more than a drachm of serum tinged with blood.

1615, Bridget Marlow. Had been ailing for years, but attributed her last illness to the drying up of what she called scurvy in her limbs.

Sept. 4. Severe headach; weakness; lienteric stools. *Abradantur capilli.—Misturæ sennæ cum Camphora ℥s. 4tis horis.*

5. Bowels free. Tongue very foul. Headach. *Pulv. Ipec. gr.* xv. *Mistura Salina Efferv.*

7. Headach; drowsiness. *Mist. Sennæ cum Camphora.*

8. General torpor; supine. *Pulv. Ipecacuanhæ gr.* x. *Hirudines* vi. *tempori.*

9. Comatose. Died in the evening.

Dissection. The internal surface of the peritoneum studded with small white grains, numerous on that portion which covered the intestines. The spleen seemed firmer than usual, but this arose from the morbid thickness of the peritoneum. The liver, much

enlarged, occupied the whole of the right side of the abdomen, and rested on the ileum. It filled the umbilical and epigastric regions, and the left lobe passed into the left hypochondrium over the stomach; there were recent adhesions between the convex surface and abdominal parieties. The right ovarium was as large as a hen's egg; it adhered to the rectum, and contained a quantity of thick pus, and was cauliflowered. There were small granular bodies in the substance of the lungs, externally of a dark animal matter, internally earthy. One of these was surrounded with purulent matter. The pericardium had excrescences resembling those of the peritoneum. Longitudinal sinus irregularly dilated. Tunica arachnoidea much thickened; effusion of serum betwixt it and the pia mater. Several ounces of fluid in the ventricles.

1264. Bridget Connor. Had been diseased long before her admission. She died on the 17th of October, of dysentery, which had been long in a chronic form.

Dissection. Liver of natural size and consistence. Gall-bladder filled with watery bile. Towards the pylorus the mucous membrane of the stomach was much corrugated; the muscular and serous coats were very firm. The mucous follicles of the duodenum were enlarged, and had a granulated appearance. The mucous membrane of the ilium near the cœcum was very vascular, and minute blood-vessels were observable all over its surface. The entire of the mu-

cous membrane of the cœcum was uniformly of a pale red, from the vast number of minute vessels. The vascularity of the colon was very great; it was of a bright red. Towards its lower portion, and throughout the whole extent of the rectum, there were numerous small elevated spots, extending as deep as the muscular coat, but not affecting it. A dirty yellowish matter covered the ulcers. Towards the anus they increased in size and number; the granulations were of a deeper red. On dividing them, the redness was not found to extend to their bases, which were white and firm, resembling organized coagulable lymph. The coats were much thickened, particularly the muscular. The inner surface of the labiæ and the vagina was affected with the same kind of ulceration as the intestines, but was without the red excrescencies. The mucous membrane of tbe bladder was more vascular than natural.

1277. Richard Gibson. Tongue foul. Pains all over the body. *Pulv. Rhei* ʒss. *Putv. Antim. gr.* ix. *in sex partes—*1 *sextis horis.*

Sept. 18th. Without pain, but weak. *Intr. pulv. Mist. Salin. Efferv.* He lay in bed without fever and without complaint, but of debility, till

Sept. 30th Quick pulse, tormina, diarrhœa.—*Pulv. ipec. gr.* xx. ℞. *Tinct. Opii gutt.* xxx. *Tinct. Rhei.* ʒii. *aq : menthæ* ʒi. *h. s. s.*

Oct. 1. Countenance pale and anxious; hiccup.

Oct. 4. Debility. Hiccup and diarrhœa were increasing.

Oct. 6. Great debility. Tongue brown and dry; mouth sordid; countenance sallow; pulse 112.

Oct. 7. Stupor, stools passed in bed, hiccup; refused medicine.

Oct. 8. Vacant Hippocratic face—insensible. He died in the night.

He was blistered, had a solution of Epsom salts, wine, opium, &c. &c. Nothing checked the hiccup.

Dissection. No outward mark of disease save a slight enlargement of the testicle. No fullness of the abdomen. Stomach inflated; internal surface considerably darker than natural, and coated with a brownish yellow mucus. The whole alimentary canal, as far as the sigmoid flexure of the colon, of a livid colour. On exposing the mucous membrane, it was very vascular, and coated with dark mucus. The veins, ramifying through the mesentery, were turgid. There were two white tumours in the liver, larger than a nutmeg, of a cellular structure, in which yellow atheromatous matter was deposited.—Gall bladder full of dark bile—spleen soft—kidneys enlarged. Bladder contracted—its coats thickened. Urethra partially obstructed—a white hard mass in the centre of the enlarged testicle, but no cells or radii observable.

1285. John Fitzpatrick. Considered convalescent on the 21st September.

23d. Rigor on the night of the 22d. Diarrhœa. Evacuations tinged with blood. Great prostration. *Vesicatorium. Infusi ipecacuanhæ cum tinctura opii.*

24th. Diarrhœa increased; great debility. Delirium: muttering.

25th. Death. Body could not be examined.

1286. Robert Fleming. Head-ach and sickness at stomach; relieved by a purgative.

Sept. 18. *Pulv: Ipecacuanhæ grana quindecim. Mistura Purgans.*

19. *Abradantur capilli.*

20. Pain in the belly. *Mistura oleosa cum tinctura sennæ et tinctura opii.*

21. Apparently relieved.

22. Delirium in the night. Stools of rather pale scybala in bloody mucus. Sallowness of the complexion. Great restlessness and distress. Tongue purplish but clean. No fullness, but great tenderness of the abdomen. Pulse rapid. He died soon

after taking the medicines which were preseribed for him.

Dissection. General yellowness of the skin. Vessels of the brain turgid: an ounce of fluid in the vcntricles. Liver much paler than natural. No bile in the gall bladder. Spleen enlarged and solid. Its colour higher than natural. Thc original copy of the notes of this dissection being lost, I cannot state with any accuracy the appearances of the alimentary canal, but I know there was less of disease in the mucous surface than might have been expected.

1308. Patrick Keogh. Having a dysenteric complaint, he was removed with four other children to ward No. 8, in which he was under the care of one of my colleagues; on the 13th of December he died.

1322. John Macoomb, a lunatic from the House of Industry, had laboured under a bowel complaint for some weeks.

Sept. 25. Lay supine, legs drawn up; urine and fœces passed in the bed; breathing hurried.

Sept. 27. Stools tinged with blood.

Sept. 28. Pulse extremely rapid. Respiration laborious. Purging unabated.

Dissection. Skin of a deep yellow. No fullness

of the abdomen. Stomach contracted. Two intussusceptions of the ilium, which were easily disentangled. The mucous membrane of these parts was thickened and vascular. Spleen enlarged and hard; external surface marbled green. Liver very pale. Gall bladder closely contracted on a number of biliary calculi. Kidneys pale and soft. Bladder nearly empty. Chronic adhesion of the peritoneum. Several transparent vesicles on the thin edges of the lungs, which communicated with the air cells. The membrane lining the ventricles of the brain diseased. The superior and posterior part of the left thalamus nervi optici felt cartilaginous. The posterior extremity of the left lateral ventricle was distended into a sac. The ventricles contained about four ounces of fluid.

1328. Bridget Glennon. Had a very severe attack of fever in the spring. The disease for which she was sent into the hospital on the 27th of September, appeared to have subsided on the 4th or 5th day after her admission, but she did not recover strength or appetite. For ten or twelve days she had no symptom of disease but weakness and want of appetite. Then her bowels became obstinately loose, and she died, as it appeared, of dysentery and low fever.

Dissection. Brain remarkably firm and sound. The mucous membrane of the stomach thickened, soft and pulpy. There were several patches of a dull pink colour, which were covered with tenacious

mucus: much corrugation of the inner surface of the stomach. The mucous membrane of the ilium and jejunum was inflamed nearly throughout its whole extent; vessels varicose. The mucous membrane of the colon throughout its upper half deeply inflamed, much corrugated and thickened, underneath it there were numerous patches of extravasated blood; lower half sound. The substance of the liver was soft, and of a pale brown colour; there were a few purple spots on its convex surface, from extravasation of blood. The gall bladder was much distended with green bile.

1368. Thomas Parker. Fever began with rigors, pains in the head and bones, stitch in the right side, and cough. Bowels were confined.

Oct. 10. Cough. Centre of the tongue white and furred; edges red; bitter disagreeable taste. Bowels free. Vesications on the arm, the base of which was livid. Feet affected with inflammation, which resembled erysipelas. *Pulv. Ipecac. gr.* xx. *Mist. Salin. Eff.*

Oct. 11. Four motions; great debility; supine. appearance of vesicles in various parts of his body. *Mist. sennæ cum camphora. Vini* ʒvi.

Oct. 13. Bowels loose. Raving and muttering all night. Stupor. Tongue black and dry; p. 140 and feeble. Resp. 44-6. Vesications all over his body; some lenticular, others irregular. On his feet

they were livid. He died in the early part of the night.

Dissection. No appearance of disease discoverable in the brain or its membranes. Lungs collapsed; slight adhesions, apparently recent, by long filaments, between the pleuræ of the right side. Four or five ounces of fluid in the pericardium. Liver healthy. The mucous membrane at the great extremity of the stomach, and towards the pylorus, was very vascular and pulpy, and of a bright red; blood was effused under the mucous membrane, and the rugæ were well marked. The inner surface of the duodenum of rather a dark colour, the rugæ prominent; between the rugæ were numerous small white elevations, with minute orifices in the centre, as of enlarged mucous follicles; a few were on the valvulæ conniventess, but most of them were in the fossæ between. In the jejunum and ilium there were several inflamed spots like those in the stomach. The inner coat of the cœcum, through its whole extent, was very vascular, of a dark red. The veins seemed varicose; there were effusions of blood under the mucous membrane, which was pulpy. The intestine was easily torn. The colon and rectum were healthy.

1409. Benjamin Farlow, Oct. 19. Had three or four motions from the purgative mixture. He was flushed, and complained of head-ach. There was no unusual fullness of the abdomen; No pulmonic distress. Intellect clear. *Pulv. Ipecac: gr.* xv. *Mist. Sal. Efferv.*

Oct. 20. Quite insensible; vomiting a mahogany coloured fluid; pulse gone; no fullness of the abdomen.

Dissection. Brain sound. The lungs were of a dark red colour; the mucous membrane of the trachea was inflamed. Liver firm; it was of a cream colour; this extraordinary colour extended through its entire substance. Gall bladder filled with dark coloured bile. The kidneys were sound in structure, but the left kidney was larger than the right by nearly one half. The inner surface of the stomach was slighlty inflamed in some spots; it was covered with a gelatinous fluid of a dark brown colour, very adherent to the mucous membrane. The coats of the small intestines were thickened. Through all the extent of the great intestines, the mucous membrane formed valves as in the small intestines; it was very vascular and much inflamed in many parts. The bladder was distended with high coloured urine.

1445. Anne Sheale. She died on the 11th day of a fever, which very much resembled that of the next patients, Hanway and Harrison. Sheale was not blooded; the remedies were purgatives and cordials; her bowels were remarkably torpid throughout.

1457. Robert Hanway. Nov. 1. Four stools since admission. Skin spotted with a measly efflorescence. Tongue white in the centre. Foul taste. Pulse 108, and full. Cough; subsultus tendi-

num, head-ach and delirium; despaired of his own recovery. *Mittr. sangs. ad* ʒviii. *Mist. Camph.* ʒvi. *Nitr. Kali* ʒi. ʒi. s. 4*tis. horis.*

Nov. 2. Blood with little serum, of a firm texture and sizy. Calmer after V. S. Six stools. Restless delirious night; rather flushed. Eyes flushed, p. 108; some subsultus, respiration 40. *Abr. capilli. Hirudines sex tempori. Cont. Mist.*

Nov. 3. Six motions; raving restless night; much subsultus; extreme debility; efflorescence fainter: less flushing. Pulse 112. Respiration 36; less cough. *Cont. Mist. Vesicatoria suris. Vini* ʒvi.

Nov. 4. Three motions; dislikes the wine; sleeps more; muttering; twitchings about the mouth, and subsultus; eyes inflamed; efflorescence still distinct; pulse 116-120. Resp. 40. Supine. *Cont.*

Nov. 5. Bad night; frequent involuntary stools; pulse 132; resp. 40; likes the punch which was substituted for wine. *Vesicatorium inter scap.* ℞ *Pil. Hydr.* ʒss. *P. Ipec. gr.* iv. *ft. Pil.* viii. *s.* 1, 4*tis. horis.*

Nov. 6. Involuntaty stools and urine; a bad night, and quite bewildered; blister did well; resp. 34; pulse small; tremulous motion of the lips; but he lies on his side, protrudes his tongue better, and has more expression in his eye.

Nov. 7. Four or five stools in bed; had a very noisy and violent night; was supine and helpless; florid spots on the feet; toes purple; took a rigor while I was in the ward. ℞. *Mist. Camph.* ʒi., *Tinct. Opii. Camph.* ℥ii. *Syr. Simpl.* ʒi. f. *Haustus quamp. sumendus. Rep. h. s. one pint of punch.*

Nov. 8. Slept all night; now insensible; pulse indistinct; mouth sordid. *Punch freqnently*

Nov. 9. Died at 10 o'clock, A. M.

Dissection. Serous effusion under the arachnoid membrane; vascularity of the pia mater considerably increased. Brain firm. A little fluid in the ventricles. Velum interpositum thickened. Both lungs adherent to the parietes, for some extent, by long filaments, which did not appear of recent formation. Liver larger than common; its texture softer; it was of a mottled appearance. Gall bladder full of dark coloured bile. The mucous membrane at the great end of the stomach pulpy. Vascularity of the inner surface of the duodenum increased; this surface was coated with bile. Jejunum sound; mucous membrane of the ilium of a very dark red colour; vessels numerous, veins varicose; mucous membrane very soft and pulpy through its whole extent; many specks formed by effusion of blood underneath it. Large intestines sound. Blood effused under the mucous membrane of the bladder. Its vascularity very much encreased.

1461. Jane Harrison. Nov. 1. *Mittr. sang. ad* ℥viii. *Vesicatorium sterno. Mistura sennæ cum camphora.*

Nov. 2. No relief followed blood-letting. She appeared lighter after her bowels were freed. Involuntary stools and urine, the latter very copious. Stupor extreme; pulse 132. Resp. as yesterday, 44; less cough; deglutition difficult; eyes flushed; measly efflorescence on the upper part of her body; extremities cold; large patches of a faint purple colour on her legs. *Hirudines* vi. *tempi. Cont. Mist.*

Nov. 3. Pulse very frequent. Resp. 46, and moaning; tongue black, rather moist; feet and legs, notwithstanding every means, cold and livid. *Vesicatoria suris internis. Vini* ℥xii. *Mist. Camphoræ.*

Nov. 5. Moribund.

The dissection could not be obtained.

1496. Peter Dromgoole. Nov. 11. Twenty-third day of illness; countenance pallid; pulse indistinct; cough; *vesic. sterno.* ℞. *Dec: Senegæ* ℥xii. *Syr. Papav.* ℥iss. ℥i. 4*tis. horis.*

Nov. 13. Head-ach. *Abr. Capilli. Hirudines sex tempori. Mistura senegæ.*

Nov. 16. Pains in his bowels. *S. Pil. Hydr. gr.* v. *h.s. cras mane, haust. purgantem.*

Nov. 17. Rigor in the evening, succeeded by involuntary stools; tension and great tenderness of the abdomen; pulse frequent, small, indistinct. Resp. 56. Countenance sunk.

Nov. 18. Continued retching and vomiting, which began at 2 o'clock yesterday. Died at 9 this morning. He retained his senses till within a few minutes of his death.

Dissection. The peritoneum highly inflamed. The convolutions of the small intestines were glued together, and covered with a thick layer of coagulable lymph; on removing which, the intestine beneath was of a bright red; its coat was considerably thickened and very fragile. A very large quantity of feculent fluid lay in the cavity of the abdomen. On slitting open the intestines, commencing at the stomach, the following were the appearances: The vessels of the mucous membrane of the stomach were seemingly varicose; they formed patches of a red colour, which were covered by a viscid brown gelatinous substance. The duodenum and jejunum were sound. Towards the lower extremity of the ilium the cause of inflammation and death appeared, namely, an oval shaped ulcer, which had destroyed all the coats of the viscus; its edges were slightly thickened; the portion of the peritoneum which corresponded to the ulcer was most deeply inflamed. There were also seven or eight ulcers near the aperture in the intestine, which were more or less advanced in their progress; one had nearly opened exter-

nally, having destroyed all the coats except the peritoneal; others were less advanced.

1523. Mary Conolly, Nov. 18. 13th day of fever. Deafness. Suffusion of the eyes. Petechiæ. Pulse 138. *Abradantur Capilli. Hirudines sex tempori. Mistura Sal. Effs.*

Nov. 19. Four motions, reported bloody. Abdomen full and tender. Tongue yellow with red edges. Countenance flushed and anxious. Pulse 140. Petechiæ fading. Resp. 48, and moaning; dry cough. *Hirudines octo circa umbilicum. Vesicatorium amplum infra umbilicum. Sulph. Magn.* ʒi. *in inf. Rosæ* ʒi. *tertiis horis.* ℞. *Tinct. Rhei.* ʒi. *Tinct. opii gutt.* xx. *aquæ cinnamoni* ʒi. *sum. h. s.*

Nov. 20. Easier after the leeches. Yesterday two natural stools. This morning blood and mucus: vomited mucus and bile. Fullness, but less tenderness of abdomen; pulse 132. Resp. 32. *Cont. solutio. Hirudines sex Epigastrio.*

Nov. 21. A very large discharge of blood by stool, with a small portion of bilious fæces. Has vomited every thing. Abdomen softer, lanker, and less tender. Pulse indistinct. Hands and feet cold. Resp. 30, sighing. Very weak. *Intr. Solutio. S. Misturæ Camphoræ cum Nitrate Kali* ʒi. *quartis horis. Horis intermediis Vini unciam.*

Nov. 22. Vomiting and discharge of blood by

stool continues; countenance sunk. She was in a rigor. Extremities cold, notwithstanding warm bottles, fomentations, &c. ℞. *Tinct. opii gutt.* x. *Aquæ Cinnam.* ʒi. *Sumat quamprimum. Vini* ʒi. *quartis horis.*

Nov. 23. No stool. Pulse 134. Hiccup had just set in. Had been taking 5 drops of laudanum in an ounce of cinnamon water every fourth hour. *Cont. Sumat Tart. Sodæ & Kali drachmam e jure Bov. 4tis horis.*

Nov. 24. Four bilious stools. No hiccup; likes the beef tea, &c. Tongue clean at the edges; pulse 116. Feet comfortably warm. *Cont. Tart. Sodæ & Kali, &c.* ℞. *Tinct. opii gutt.* xv. *Aquæ Cinnamoni* ʒi. *m. s. h. s.*

Nov. 25. Two natural stools. Centre of the tongue covered by a dry brown crust; pulse 120; very weak. *Rep. Haustus. S. Vini.* ʒi. *4tis horis. Beef tea without Rochelle salts.*

Nov. 26. No motion; sickness at stomach, and bilious vomiting. Tongue yellow; much sleep; more torpor. Articulation difficult. Countenance more suffused. Right eye much inflamed; pulse 120. Resp. 26, laborious. *Enema quamprimum. Hirudines sex tempori. Vesicatorium sterno. fov. crura. Mistura Sennæ cum Camphora.*

Nov. 27. Said to have been very weak after the

leeches; the bleeding was stopt in consequence. Two motions. Less suffusion of the eye. Great languor of expression. Tongue dry and white; pulse 120, very feeble; Resp. 28, laborious, sighing. *Vini* ℥i. *4tis horis.*

Nov. 28. One natural motion; extreme languor; countenance flushed; pulse 124, very weak; feet and hands very cold. *Vini* ℥i. *2dis horis. Mist. Camph. cum Nitr. Kali.*

Nov. 29. One motion. Eyes very languid. Skin of the arms uniformly purple, as if from general congestion in the veins; pulse 132. Resp. laborious. *Vescatoria suris. Vini* ℥xii.

Nov. 30. No stool; a show of blood from the vagina. Fœtor of the body, notwithstanding every attention to cleanliness. Weakness excessive; pulse about 140. Resp. 36. ℞. *Calomelanos gr.* iii. *Elect. Sennæ.* ʒss. *quampr. sumend. Enema Cath. post horas quatuor. Vini.* ℥ xii.

Dec. 1. Several motions. Extremities warmer. Resp. 36; pulse indistinct; countenance flushed. *Vini.* ℥xii.

Dec. 2. Mind entire. She has never been delirious. Countenance sunk. Tongue black. Resp. 56. Debility extreme. She died about 4 o'clock p. m. Before death a very dark discharge from her bowels took place.

By the connivance of the deputy nurse, the body was removed, before my visit on the 3d December.

1524. Michael Sheridan. Came from the House of Industry, in which he acted as messenger, in a state of phrensy. He disturbed the whole ward for two nights by his ravings. His hand was tremulous; his expressions incoherent, and his countenance flushed. From what was communicated to me at my first visit, I thought his illness had arisen from continued excess in drinking spirits, and I treated him accordingly with purgatives and opiates. I understood he had been bled freely, blistered, &c. without relief, before he came into the hospital.

Nov. 24. I learnt this day from my intelligent and zealous colleague, Dr. James Clarke, that he was not an habitual drunkard: That he had imprudently bathed in the sea about ten days before he became a subject of medical treatment, and that he was considerably relieved by V. S. I could not obtain a dissection, without giving offence, but I believe he died of a maniacal affection arising from inflammation of the brain.

1530. Michael Rogers. Nov. 20. 10th day of fever. Five stools from the purgative: pulse 130. Petechiæ. Epigastrium full and tender. *Hirudines* v. *supra umbilicum*. *Sumat sulph. magnesiæ* ʒi. *ex Inf. Rosæ* ℥i. *3tis horis.*

Nov. 21st. Profuse bleeding after the leeches.

four stools. Belly still bound, but less tender. Tongue cleaner, but dry ; pulse 120. *Rep. Hirudines* iv. *& solutio.*

Nov. 22. Four natural motions, ; pulse 116 ; fullness of the hypochondria ; dry cough ; brownish tongue. *Intr. Sol.* ℞. *Pil. Hydrarg. Pulv. Ipec. Comp. aa. gr.* xv. *in sex Pil. Sumat* i. *sextis horis. Vesicatorium Epigastrio.*

Nov. 23. Four motions ; pulse 120. *Cont. Pil.*

Nov. 24. Three motions. Some perspiration last night ; pulse 108 ; cough. *Contr. Pilulæ.*

Nov. 27. Two motions. Mouth affected by the mercury ; pulse 100. *Intr. Pil. Sol. Sulph. Mag.*

Nov. 28. Seven motions. Tenderness of abdomen ; pulse 108. *Mittr. Sangs. ad* ℥vi. *Int. Sol. Rep. Pilulæ.*

Nov. 29. Two motions. Relief after V. S. Pulse 108. Tongue moist. *Contr. Pilulæ.* ℞. *olei Ric.* ℥ss. *Tinct. opii gutt.* xv. *h.s.s.*

Nov. 30. Three stools ; belly relieved ; pulse 84. Tongue clean. Appetite. No perspiration.

Dec. 1. Three stools ; pulse 72. Appetite.

I was about to discharge him from the hospital,

when, on December 8th, I found that he had been at stool above twenty times: Blood and mucus; no fæces; great tenderness of the abdomen (umbilical); pulse 100. *Mitt. Sang. ad* ʒviii. *Vesicatorium regioni doloris.* ℞. *Calomelanos gr.* xii. *Opii grana duo, f. Pilulæ sex, sumat unam 4tis horis.*

Dec. 9. Not more than two or three ounces of blood obtained; several stools; fæces mixed with blood; no pain; pulse 108. *Cont. Pilulæ.*

Dec. 10. Many loose stools; very dark mucus mixed with green bile. Tongue white. *Hirudines* v. *abdom. Cont. Pilulæ.* ℞. *Olei Ric.* ʒss. *Tinct. Opii gtt.* xx. *h. s. s.*

Dec. 12. Involuntary green slimy stools; tongue getting red at the point. *Int. Pil. Lime water and milk.* ℞. *Mist Cretæ* ʒv. *Tinct. Opii* ʒi. *Vini Ipec.* ʒii. ℞. *Cochleare amplum post sedes liquidas.*

Dec. 13. Involuntary discharges; mucus and blood; pulse 120; tongue dry at the centre, red at the edges, and mercurial fœtor. Removed to No. 7. ℞. *Hydr. sub. gr.* xxiv. *Opii gr.* iii. *Conservæ Rosæ q. s.s.* f. *Pilulæ sex, sumat.* i. *4tis horis. cras mane Olei Ric.* ʒss.

Notwithstanding every attempt by means of baths, rollers of flannel, injections, anodynes, astringents, milk diet, animal diet, spiced wine, &c. to check the disease, he gradually wasted away, the stools flow-

ing from him without notice till the 24th of December, when he died. I never ceased to regret that the bleeding, ordered on the 8th of December, was mismanaged. When eight ounces of blood were ordered to be taken, I generally had found nearly ten removed; and ten ounces of blood from a boy of his age would, in all probability, have checked the disease. I thought him better on the 9th, and heard so much of the difficulty of obtaining blood, that I very improperly gave up the point.

Dissection. The viscera contained in the cavity of the thorax were all healthy. The liver was sound, and the gall bladder was moderately filled with healthy bile. The mucous membrane of the stomach was of encreased vascularity, soft and pulpy, covered with a tenacious mucous secretion of a light brown colour; the muscular fibres were pretty strongly marked; the mucous membrane of the duodenum was of a light brown colour, and thickened; its surface was rough. The jejunum and ilium were sound. The internal coats of the great intestines were thickened, firm, and the cut edge, when examined, was of a white colour, and not unlike cartilage. The mucous membrane was of a dirty yellow colour, superficially ulcerated in some places; but there were no warty excrescences, or red granular eminences; in some places there were flattened elevations, which however retained the colour of the rest of the intestines; the mucous membrane was very vascular, but when the intestine was injected, the injection escaped almost

entirely into the cavity of the gut from the surface of the mucous membrane. The mesenteric glands were enlarged.

1535, James Stevenson. Inflammation of the liver and lungs, which ended in the formation of a considerable abscess in each. By a small aperture through the diaphragm, which was closely adherent to both organs, there was a communication between the abscesses. The case and dissection, though highly important, would throw no light on the present inquiry.

1571, Mary Graham. Squalid, and although only fifty, she had all the appearance of old age. When admitted she had dysenteric symptoms, which were relieved by opium and calomel. She had no perspiration; her recovery was interrupted on the 19th.

Dec. 20, and 21. His bowels being confined, she had castor oil and tincture of senna.

Dec. 22. Bowels very loose; hardness and some tenderness of the abdomen; tongue dry; pulse 120; unsteady. *Hirudines sex epigastrio. Vesicatorium. Solutio Nitratis Kali.*

Dec. 23. One large stool; slept all morning; pulse 104; great weakness. *Beef Tea. Cont. Solutio.*

Dec. 25. Took her breakfast this morning; su-

pine; pulse 120; respiration 28, and laborious. No complaint but of thirst.

Dec. 25. Died at five o'clock a. m.

Dissection. Some adhesion of the intestines to the abdominal parietes. The stomach was very large, stretching downwards low in the cavity. The muscular fibres very well marked. The mucous membrane was of much increased vascularity. Numerous dark patches, apparently extravasations of blood, were observable. The vessels running between the mucous and muscular strata were considerably increased in size. The mucous membrane was very soft and pulpy, many bright red spots upon it. The mucous membrane of the duodenum was studded with small white eminences, chiefly situate between the valvulæ conniventes. There was a diminution of their size and number on approaching the jejunum. The liver was of a natural size, of a light brown colour, soft and easily torn. Its vessels did not contain any fluid. The spleen was much enlarged, stretching transversely towards the spine, and displacing downwards the left kidney. Its structure was rather firmer than natural; it was of a dark reddish colour; its proper capsule was thickened.

1577, James Douglas, Dec. 5. Of late he had been much exposed to cold and hardship. For eight days he laboured under a severe bowel complaint, which suddenly stopped on the 27th of November, after which he had no stool, but he vomited every thing. Abdomen full, particularly over the navel,

and very tender. Pulse 120, and small. Says he had a rupture three years before. I could discover no herinary tumour. *To be examined by the surgeon. Enema Terebinthinæ, 6tis horis injm. Embrocatio Terebinthinæ.* ℞. *Calomelamos scrupulum Opii gr.* iii. *Conservæ Rosæ, q. s. s. f. Pil. sex. Sumat unam 4tis horis.*

Dec. 6. Mr. Carmichael could discover no herniary tumour. Vomiting continues. The pain has ceased, but there is more fullness, especially over the umbilicus. Resp. 30 ; pulse with difficulty felt. Mind calm. complains of extreme debility, and begs for wine. *Vini* ℥vi. *Cont. Pil.*

Dec. 7. Has vomited stercoracious matter. Pulse so feeble that it can be felt only when the slightest pressure is applied, about 100. Resp. 20.

Dec. 8. Vomiting of stercoraceous matter. Features sunk. He died in the course of the night.

Dissection. Thoracic viscera sound. Peritoneum inflamed. A layer of coagulable lymph covering the small intestines, which were distended with flatus, was adherent to the Peritoneum. A considerable quantity of sero-purulent fluid lay in the cavity of the abdomen. The peritoneum was thick, rough, vascular, and deprived of elasticity. The stomach was greatly distended with air and feculent matter; its coats were thinner than usual ; there were one or two patches from a varicose state of the vessels at

the great extremity; it was adherent to the concave surface of the right lobe of the liver; the adhesion was recent. The mucous membrane of the duodenum was thickened; the vessels were in a varicose state; the mucous glands, as it seemed, were much enlarged. Throughout the small intestines the mucous membrane was of a dark red colour in different portions, and this for a considerable extent in some of them; this dark appearance seemed owing partly to numerous vessels which were in an apparently varicose state, and partly to extravasations of blood under the mucous membrane; the spots produced by the latter cause were larger than the others. The coats of the jejunum and ilium were thinner than usual, probably from their over-distended state. The colon and ilium seemed in the same condition as in the beginning of dysentery—studded in their inner surface by elevated spots of a bright red colour. As in the small intestines, there were patches formed by extravasated blood, which were large and flat. The coats of the great intestines were thickened—first, the mucous membrane by the excrescences; secondly, the muscular fibres were particularly well marked, especially the transverse; and thirdly, the serous membrane by a layer of coagulable lymph. Corresponding with those parts of the mucous membrane which were most diseased, the peritoneal coat was most deeply inflamed, and covered with a thicker layer of lymph, and where coated with lymph this membrane was vascular and thickened. The liver was sound. The

gall-bladder contained some dark coloured bile. The thoracic viscera were sound.

1583, Thomas Meade. Dec. 6. Admitted on the 11th or 12th day of fever. Had no motion for eleven days before admission; five stools; skin covered with florid petechiæ.

Dec. 7. Fulness of the epigastrium; pressure on the epigastrium, "hurt him sadly." Only one motion. Pulse 136. Resp. 36. Cough. Flushed. Brown tongue with purple edges. Occasional delirium. *Mitt. Sang. ad* ʒviii. *Vesic. Epigastrio. Sol. Sulph. Magn. in Infuso Rosæ.*

Dec. 9. Blood sizy; delirious night; one large stool; manner still confused; belly bore pressure better; tongue cleaner at the point; pulse 100; resp. 24. *4tis horis sumat Tart. Sodæ et Kali* ʒi. *e juris Bov. Cyath.*

Dec. 11. Head was shaved, and Camphor Mixture with nitre substituted for Rochelle salts. Delirious night, five stools entirely consisting of mucus and blood; pulse 92. ℞. *Hydrarg. Submur. gr.* xii. *P. Ipecac. comp. scrup.* i. *in sex partes sumat unam 4tis horis.* ℞. *Olei Ric.* ʒss. *sumat cras manc.*

Dec. 13. Between three and four quarts of fluid deeply tinged with blood were passed by stool in the course

of last night. When roused from a dosing state his apprehension was dull, but his answers were rational. Supine; countenance rather sunk; hiccup; tongue dry and brown; pulse 96; cough. *Intr. Pilulæ. Hirudines* v. *Epigastrio. Rep. Tart. Sodæ et Kali.* ℞. *Tinct. Opii gtts.* xv. *aq. Cinnamom.* ʒvi. *m. h. s. s. Vini* ℥vi.

Dec. 16. Angry vesicles about the mouth; pulse 108; stools pretty natural; hiccup continues. *Hirudines sex Epigastrio. Haust. cum Tinct. Opii gtt.* xx.

Dec. 19. Has taken the decoction of seneka for his cough, which is less troublesome. Partial and transient perspiration this morning; pulse 96; no stool; some salivation. *Ol. Ric.* ℥ss.

Dec. 31. Had no return of perspiration; one stool; tongue clean; pulse 100; looks were improved, appetite very keen; had refused to take medicine, and was dissatisfied with the allowance and restraint of the hospital.—To be sent to the convalescent ward. He died on the 12th of January; but I did not know that his complaint had taken any unfavourable turn till I heard of his death; and then all I could learn was, that his appetite was craving for some days, and then it left him suddenly and entirely, aud his legs began to swell. Some swelling of his belly also was observed on the day before he died.

Dissection. The thoracic viscera were perfectly sound. On opening the cavity of the abdomen, about threepints of serous fluid escaped. The peritoneum was thickened, and more opake than natural, and its elasticity was diminished. The liver was sound. The stomach was contracted; its mucous membrane was increased in vascularity, thickened, and in many places thickly beset with small granular white eminences. The mucous membrane of the duodenum was of a deeper red; this colour was produced by a more general increase of vascularity, together with extravasation of blood. These appearances, which extended a considerable way down the alimentary canal, gradually diminished, so as to be lost in the ilium.

1634, James Matthews, Jan. 4. Although he had a troublesome cough he had been considered convalescent for several days. "He made his bed stoutly "in the morning, ate his breakfast of flummery and milk heartily," and shortly after he was found in bed, dead. He had a severe fit of coughing, after which he was not observed to stir. In the night he had talked more than he usually did.

Dissection. Considerable quantity of serous fluid under the dura mater. No other appearance of disease in the head. The lungs were distended with blood of a dark purple colour; there were several firm tumours in the substance of the lungs, apparently caused by an increase in the thickness of some of the divisions of the trachea, whose inner surface was rather more vascular than natural. There was a

very small quantity of coagulable lymph effused on the surface of the right ventricle of the heart. There were about two ounces of yellow serum in the pericardium. The liver was of a small size, and closely adherent by its convex surface to the under surface of the diaphragm; seemingly this was not the effect of recent inflammation. The gall-bladder was filled with fluid bile of a light orange colour. The stomach was remarkably contracted, firm and thick, but no disease was apparent in it. The intestines in different parts were much contracted, but not from disease. The mucous membrane upon the whole was healthy.

3, Thomas Macguire, Jan. 2. This man was admitted on the sixth day of his illness. It did not appear that he was particularly liable to catarrh. He had got a wetting on the day before he was taken ill.

Jan. 3. Had four stools from medicine; countenance flushed, inclining to livid; headach; tongue covered with a white fur, edges of it purple. Respiration laborious, but not more than 20; between the expiration and inspiration there was a considerable pause; dull pain in the chest; expectorated with difficulty a yellow and very tenacious mucus; cough in suffocative fits; pulse 92; says his head is too low. *Mittr. Sang. ad* ʒviii. *Vesicatorium amplum sterno.* ℞. *Pilulæ Hydrag. drachmam dimidiam, Pulveris Ipecacuanhæ grana octo. f. Pilulæ duodecim. Sumat unam 4tis horis.*

Jan. 4. He died in the course of the night.

Dissection. Considerable and firm adhesions between the lungs and ribs. No fluid in the cavity of the pleura. Lungs did not collapse—of a dark purple colour in many places; vessels full of blood. The mucous membrane of the bronchiæ of a bright red colour, and thickened considerably, so as materially to diminish the area of their canals, especially as they became smaller; there was a small quantity of white and very viscid mucus in the bronchiæ. The right side of the heart was much distended with blood, the left side empty. The liver was healthy. The stomach was of a remarkable size, extending downwards below the umbilicus, and stretching across the abdomen; on the inner surface there were numerous dark patches, intermixed with many minute dots of a red colour; several large veins were traced as far as the dark spots, which appeared to be formed by extravasation of blood. These appearances were in the course of the lesser curvature. At the pylorus, and extending into the duodenum for two inches, the coats were thickened, and the mucous membrane, minutely vascular, was coated with a firm layer of coagulable lymph; this although rather brittle, could be detached from the intestine. Tracing the disease further, the mucous membrane was found very vascular, and pulpy with extravasation of blood under it, chiefly in dots. In proceeding downwards the extravasations became less numerous, further asunder, and the membrane in the

intervals appeared healthy; still nearer the large intestines, it was sound. In the stomach numerous small white eminences were observable, which resembled mucous glands.

18, Anne Woods. Of a scrofulous diathesis; subject to chronic catarrh. Catamenia had been absent for eight months. Jan. 8. She was admitted on the 15th day of an illness, which began with rigors, headach, cough, and dyspnœa. Headach, cough, and dyspnœa unabated. Countenance œdematous and livid, eyes glassy; nails livid; some œdema of the inferior extremities; fullness, no tension, but an obscure sense of fluctuation in the abdomen. Expectoration of pretty natural mucus slightly streaked with blood. Tongue purple, with a slight coating of mucus. Pulse 108, and soft. Two stools, but no urine since admission. *Vesicatorium amplum sterno.* ℞. *Carbonatis Ammoniae, Pilulæ Hydrarg. aa. drachmam dimidiam, f. Pil.* x. *s. unam 3iis horis, superbibendo* ℥ss. *Misturæ Ammoniaci cum syrup. Scillæ.*

Jan. 16. Nose threatened with gangrene; one of the feet livid; expectoration scanty; pulse 120; resp. 36. *Cont. Vini* ℥vi. *et Dec. senegae.*

Jan. 20. Expectoration of puriform mucus; respiration now easy in all positions; pulse 88; lividity of the foot increasing, and encroaching on the ankle; gangrenous spot on the nose spreading; great debility. *Vini* ℥viii.

Jan. 24. Involuntary stools; foot completely gangrenous; pulse 96.

Feb. 4. Death.

Dissection. The pia mater was rather more vascular than natural; the brain itself was very healthy, its substance remarkably firm. The surface of the lungs was slightly adherent to the parieties of the thorax. The mucous membrane of the trachea was healthy; the lungs were sound. All the cavities of the heart were distended with coagulated blood of a dark colour. The liver was firmer in its texture than usual, and of a pale colour. The stomach was contracted, its mucous and muscular coats thickened; the mucous coat was much diseased; the whole surface was of a dark red colour, covered with a dark mucous secretion; towards the cardiac extremity the colour was of a brighter red, owing to its extreme vascularity—minute vessels ramifying on the whole surface. On scraping off the tenacious secretion, numerous small eminences were observable, and the points of extravasation were seen plainer. The mucous and muscular coats were easily detached from each other, and were both very thick and firm. The inner surface of the duodenum was uniformly red, and of a brighter colour than the stomach. These appearances continued to the cœcum—the colour in some places of a deeper, in others of a paler red. The mucous membrane throughout was thicker than natural. The cœcum and commencement of

the colon were also much diseased; the mucous membrane appeared as if minutely injected with blood. There were numerous spots of a bright red colour, which evidently arose from extravasation; for upon removing the mucous membrane which covered them, they could be wiped off. The diseased appearance gradually terminated in the colon.

21. John Toole, a soldier who had served in Spain, and who had lately been discharged for "an asthmatic complaint," after having been at sea for four days in a storm, during which he got scarcely any nourishment, was admitted as I was leaving the hospital on the 8th of January. Countenance flushed, livid and swoln; eyes glassy. Tongue with purple edges and covered with mucus. Cough in suffocative fits, pulse 116. He had been largely blooded before he came into the hospital. *Vesicatorium amplum sterno.* ℞. *Carbonatis Ammoniæ scrupulum. Cons. Rosæ q.s.s. f. Pilulæ* x. *Sumat unam quartis horis, Superbibendo unciam Misturæ sennæ cum camphora.*

Jan. 9. One stool. Expression improved. Complexion more natural. Tongue cleaner, and of a more natural colour; foul taste; pulse 108. Cough in suffocative paroxysms. Expectoration very viscid. *Cont. Pilulæ. Dec. senegæ cum Syrupo opii.*

Jan. 10. *Olei Ricini* ʒss. *Cont. Pil. & Dec.*

Jan. 11. Ten or eleven stools. ℞. *Pulv. Ipe-*

cacuanhæ ʒss. *Aquæ ferv.* ℥iii. *Colaturæ, adde Tincturæ opii gutt.* xxv. *Syrup. Simpl.* ʒii. *m. Sumat dimidium quamprimum, partem manentem, h. s.*

Jan. 12. *Rep. Pil. & Dec. senegæ.*

Jan. 15. Yesterday he appeared to be going on favourably. Last night his breathing became more oppressed, the expectoration being diminished. This morning, being alarmingly ill, he was let blood by direction of the apothecary to the extent of sixteen ounces. No relief was obtained till upwards of 12 oz. were taken. P. 120; resp. 48-50. Complexion livid. Tongue white. Entreated me to have him blooded again; says he knows by experience that nothing else will relieve him. *Mitt. Sangs. ad* ℥viii. *Vesicatorium amplum sterno. Olei Ricini.* ʒss. ℞. *Mist. Camphoræ* ʒvi. *Sp. Ammoniæ Aromatic.* ʒii. *m. s.* ʒi. *3dis horis.*

Jan. 16. Only one stool, rather more expectoration. Resp. 52. pulse 128. livid paleness of complexion. Tongue white, with livid edges. He died in the course of the night.

Dissection. In the head the veins were rather turged with blood; the pia mater was increased in its vascularity; the substance of the brain was very firm. The right lung was closely adherent to the pleura costalis throughout its whole extent. It was also intimately connected with the right side of the pericardium; the adhesion to the thorax could be

easily torn, except at the posterior and inferior part, at which part the pleura was converted into cartilage, in some places nearly an inch in thickness. The two pleuræ formed one mass of cartilage and could not be separated; the pleura on the right side of the diaphragm was converted into a similar substance, the diaphragm closely adhering to it. About one fifth part of the pleura of the right side of the thorax was thus diseased. The left lung was free from adhesion. The vascularity of a considerable portion of the lungs was increased: as seen through the transparent pleura, they were of a scarlet colour; this appearance terminated abruptly in the common grey colour. The mucous membrane of the trachea, bronchiæ and ramifications was of a bright red, and considerably thickened; in the trachea the thickening was partial, but in the bronchiæ it was general. The mucous membrane was coated with tenacious puriform mucus. The heart was sound. The liver had no appearance of disease. The stomach was very large; the muscular layer was thickened; on its inner surface, and chiefly in the direction of the greater curvature, several patches and numerous dots of a bright red colour (seemingly from extravasation) were visible; the entire of the mucous membrane was studded with small white granular eminences; they extended into the duodenum, on the inner surface of which there were similar patches to those in the stomach, only more numerous, and of a darker colour. Under the mucous and serous layers of the stomach, but more especially the former, there was air, which readily passed, on being pressed, from one part to another, elevating those coats into vesicular

tumours, having an elastic feel and crackling noise as in emphysema.

26. Mary Byrne, Jan. 10. Ninth day of illness. Delirium had given way to stupor. Bowels costive. Hypochondria tumid. Temperature 104. p. 140-50. Measly efflorescence of the skin, coldness of the lower extremities; toes bloodless, ankles livid, skin of the nates fretted. *Abradantur capilli. Hirudines sex tempori. Bolus e calomelane, quamprimum. Mist. sennæ cum camphora. 4tis horis.*

Jan. 12. Bowels quite free; pulse scarce to be distinguished. An anthrax on the left mamma. *Vini* ℥viii, &c.

She died in the course of the night.

Dissection. There was not any appearance of disease in the viscera of the thorax. The mucous membrane of the alimentary canal was healthy, save a portion of the small intestines, where its vascularity was increased but in a trifling degree; unfortunately the brain, in which the disease most probably had its principal seat, was not examined.

73. William Lawless. When admitted, on the 23d of January, he had cough, stitch in the right breast, difficult respiration and quick breathing (40), pulse 108. Temp. 102. Headach; tenderness of epigastrium; and along with these symptoms he had hectic flushing of the countenance, and a very jaded

look. He died on the 2d of February. His relatives objected to his body being opened, so that I could not verify my suspicion of pulmonic abscess being the cause of his death. I shall not trouble the reader with the particulars of the case.

107. Anne Boyle, Feb. 23d. Complained of great oppression at the præcordia, great thirst, pains in her knees. She had a slight headach, and was much confused. Her tongue was brown in the centre; the edges white; pulse 118. Resp. 26. Temp. 98. Petechiæ; had four stools. *Abr. Capilli. Mist. Sennæ cum Camphora.*

Feb. 24. Resp 32-4, moaning, pulse 130. weak, indistinct. *Vesicatorium inter scapulas. Vini* ʒvi. *Cont. Mist.*

25th. Three stools. Countenance flushed; pulse 100. Resp. 32. *Cont.*

Feb. 26. Four stools. Rigors during the night. Tongue dark brown; pulse 100. Resp. 36. ℞. *Aquæ Ammoniæ Acetatis* ʒii. *Spt. Ammoniæ Arom.* ʒi. *Aquæ* ʒiv. *Sacchari* ʒii. *m.* ʒi. *2dis horis. Vini* ʒvi.

Feb. 27. Two stools; countenance flushed. Tongue black; protruded with difficulty. Pulse very frequent and small. Resp. 30. laborious and uneasy; oppression at the chest; uniform purple suffusion of the arms and hands. Extremities ra-

ther cold. Petechiæ continue. *Bolus e Calomelane. Vesicatorium sterno. foveantur crura. Vini* ʒx.

Feb. 28. Death.

Dissection. On raising the dura mater from the brain, about an ounce of fluid of a reddish cast escaped. The pia mater was more vascular than natural. There was but little fluid in the ventricles. The substance of the brain was firm. On opening the cavity of the thorax, the lungs did not collapse; with the exception of some increase of vascularity on their surface they they appeared healthy externally. On slitting up the trachea, bronchiæ, and its subdivisions, as far into the lungs as possible, the mucous membrane exhibited a considerable increase of vascularity; its colour in many places dark red. The tubes were all filled with a fluid resembling purulent mucus deeply tinged with blood; in some of the tubes the mucus appeared natural. The right side of the heart was filled with fluid blood. About the termination of the jejunum, the vascularity of the mucous membrane was increased, but it was not lined with viscid secretion; it appeared rather in a state of congestion than inflammation. There were some tumours of a texture resembling cartilage on the peritoneal surface of the uterus.

170, John Barry. This patient was admitted after the visit on the 26th of February,—and next morning at the visiting hour his body lay on the dissecting table. His disease was a pleurisy, which terminated on the third day.

210. Margaret Walsh had been three months in an hospital, labouring under dropsy, whence she was conveyed into the Hardwicke Hospital, in consequence of symptoms of fever appearing; when the febrile symptoms disappeared, she again became dropsical and cachectic; and as she was friendless she was allowed to remain in the hospital till she expired.

214, Thomas Murphy. Had long been subject to hepatic disease. Upon his admission on the 8th of March, he complained of violent headach, and his pulse was under 50. On the 12th, delirium took place. On the 15th, he became hemiplegiac, and he died on the 16th.

Mary Williams. Had lately been under a mercurial course. On the 13th of March, rigors, great debility and weariness; vomiting of bilious matter. Admitted on the 19th March. Dyspnœa; tongue buff-coloured; great desire of acid drinks; pain across the loins; petechiæ, both florid and violet-coloured; pulse 124; resp. 32; temp. 98; purple mottling of both the feet, which are very cold; had three stools before admission. *Mitt. Sang. ad* ʒviii. ℞. *Mist. Camph.* ʒvi. *Nitr. Kali* ʒi. *Vini. Tart. Antim.* ʒi. *m. s.* ℥i. *tertiis horis.*

March 20. Some relief after V. S.; seven or eight stools; a disturbed night from vomiting and purging; tenderness of epigastrium; many livid patches of the feet. *Vesic. amplum epigastrio. Sumat*

Tinct. Opii gtts. viii. *e haustu Efferv. quamprimum, et repetr. hora decubitus.*

March 23. Four stools; pulse 92; cough; doses much; feet warm and without marbling.

March 27. Retching and bilious vomiting; foul taste; pain and tenderness of the epigastrium; flushed.

March 28. Two scanty stools; vomited bilious matter; cough; lay supine; had great languor; tenderness of the belly on pressure; stupor; pulse 92, and weak. *Mitt. Sang. ad* ℥viii. *Vesic. amplum regioni umbilicali.*

March 29. Blood cupped and buffed; relief after V. S.; expression improved; tongue dry, brown, with florid edges.

April 1. Two stools; vomited every thing; frequent cough; expectorated bloody mucus; complexion bright purple. *Mitt. Sang. ad* ℥viii. ℞. *Hydrarg. Subm. gr.* xii. *Opii gr. duo f. Pil.* viii. *Sumat unam 3iis horis.*

April 2. Refused to allow herself to be blooded. Pulse not to be distinguished; hiccup. *Vini* ℥vi. ℞. *Mist. Camph.* ℥vi. *Spt. Æth. ol.* ℥i. *Sacch.* ℥ii. *s.* ℥i. *3iis horis.* In the evening she was screaming violently. *Haustus cum Tinct. Opii, gtts. triginta.*

April 4. She died at 4 o'clock p. m. yesterday.

Dissection. Increased vascularity of the pia mater, several points of a red colour on its surface. Texture of the brain very firm. About three drachms of serum in the ventricles. The lungs externally appeared healthly. On following the ramifications of the trachea to their termination, the mucous membrane throughout appeared much inflamed, of a very deep red colour, not thickened; the tubes were filled with a bloody mucus, which flowed out in large quantities. The liver was enlarged, and its texture less firm than natural. The gall-bladder was distended with dark coloured bile. There was no disease of the intestines. The kidneys were enlarged, their texture loose and flabby, their colour yellowish brown. One ovarium was distended to the size of an egg, with a reddish serum. The other also was affected with incipient dropsy. The vagina was ulcerated.

Anne Bailey, March 26. Sixth day of illness. Had not a motion for three days. Pains in her bones; headach; oppression at her chest; suffocative cough; difficult expectoration; palpitation; tongue white, coated with mucus; lips dark purple; pulse 94; resp. 30; temp. 98. *Bolus e Calomelane.*

27. Three stools; palpitation, cough and op-

pression. *Vesicatorium amplum sterno. Pil. Hydrarg. gr. tria, p. Ipecac. gr.* i. *s. tertiis horis.*

28. One stool; countenance flushed; great distress of respiration; pulse 128. *Haustus purgans. Cont. Pil.*

29. Two large stools; tongue white, with purple edges; very foul taste; pulse rather firmer; expectoration more free; urine scanty; feet cold. *Fov. Crura.* ℞. *Carb. Ammon. scrupulum* i. *Opii gr.* iii. *P. Ipec. gr.* vi. *Conserv. Rosae q. s. s. f. Pilulæ* xii. *Sumat unam 4tis horis. Rep. Haustus.*

31. ℞. *Vesicatorium amplum inter scapulas.*

April 2d. Slept none all night; one stool; respiration 44, laborious, gasping; pulse 124; expectoration continued. *Bolus e Calomelane.* ℞. *Mist. Camph.* ℥vi. *Tinct. Opii Camph.* ℥ss. *Sumat* ℥i. *3iis horis. Vini* ℥iv.

3d. Orthopnœa; extremities cold; pulse 100.

4th. Respiration very laborious; wind from her stomach; extremities livid and cold; no pulse at the wrist.

5th. She died.

Dissection. This was almost the only dissection

in which the appearances did not afford an adequate explanation of the cause of the patient's death. Nothing remarkable was observed, but a considerable quantity of viscid mucus in the bronchiæ.

N. B. All the dissections, with the exception of 1571, Mary Graham, were performed within twenfour hours of the patient's death.

REPORT

OF

CERTAIN MORBID CONDITIONS

OF THE

ABDOMINAL VISCERA,

IN SOME VARIETIES OF

MANIACAL DISEASE;

WITH THE

METHODS OF CURATIVE TREATMENT.

By EDW. PERCIVAL, M. B. Cantab: & Dublin:

M. R. I. A. ONE OF THE SENIOR PHYSICIANS TO THE HOSPITALS OF THE HOUSE OF INDUSTRY, &c. &c. &c.

THE records of Insanity are remarkably defective of information, respecting the attendant morbid condition of the abdominal viscera. Although the antients discerned the connexion between these lower organs, and those which are more immediately subservient to the intellectual faculties; yet later anatomists having opened a scene of more curious investigation in the brain, and its appendages, the causes of mental derangement have, since, been almost exclusively sought for, in that complicated

structure.* Neither the genius nor the industry of these enquirers can be impeached, even by their own candid acknowledgments of ill success.† It is presumable, only, from the common failure of their

* See the works of Bonetus, Morgagni, Haller, Greding, Pinel, Gall, Haslam, Crowther, &c. *in locis.*

† "We are so far from being able," (says Haller) "to perceive an uniform connexion between any one disorder of the mind, and some corresponding preternatural state of the cranium, that the very same appearances are exhibited after the most opposite disorders." Elem. Phys. lib. xviii. sect. 1. "We have often occasion," (observes M. Pinel) "to remark morbid appearances in the brains of insane subsects; yet frequently we cannot discover any physical læsions or alteration in the organic structure of its parts; and what is yet more decisive, we sometimes remark in very different subjects, and at the termination of diseases quite foreign to insanity, appearances similar to the former. What light then can be derived from a mere exposition of varieties in cerebral phenomena?" Traitè Med. Phil. &c. p. 453. M. Esquirol, one of the latest and most experienced writers on insanity, declares his opinion, that, "all the labours of anatomy on the brain, have produced no other result, than descriptions more or less accurate of that organ, and the desperate certainty, "la certitude desesperante," that we shall never be able to assign the use of its several parts, so as to draw any conclusion referable to the exercise of the thinking faculty, whether in a sound or disordered state." Dict. des Sciences Medicales Art. *Folie*, Tome xvi. p. 214.

Whilst these sheets were preparing for the press, Dr. Spurzheim's "Observations on Deranged Manifestations of the Mind, or Insanity," arrived in Dublin, and fell into my hands. My expectations of the contents of this volume were raised, perhaps unreasonably, by the Author's general reputation as a physiologist, and by the opportunities I had personally enjoyed of witnessing his skill as a dissector of the brain. His work, which is by no means deficient in ingenuity, is wholly subservient to the well known physiognomical theories espoused by him-

attempts to fix the pathology of insanity, by appearances of the brain, either, that the physiology of that organ is yet too imperfectly known, or that those functions, which are associated with mental and moral operations, may be deranged, without leaving any traces of organic injury. The analogy of other branches of natural and morbid science, as well as the peculiar difficulties which this subject involves, would lead me to adopt both of these inferences.

self and Dr. Gall.—That the principles of physiognomy, whether facial or cranial, may rest upon *mensuration*, as their proper basis, is not improbable; but the attempt to raise a structure of pathology on the same ground is a widely different undertaking. The boldness of Dr. Spurzheim's hypotheses, would have claimed more indulgence from his readers, had he displayed less solicitude to disparage the labours of his predecessors. In the proper field of his scientific enquiries, that of morbid anatomy, he has furnished little contribution to the existing stock of knowledge; his attention having been diverted, from the more minute but substantial indications of disease, by the sanguine pursuit after forms and magnitudes, in organs, whose distinct existence is doubtful, and whose varieties Dr. Spurzheim himself acknowledges to bear no certain or uniform relation to disease. To exhibit his system of distinct organs of the mind, a dissected solid sphere, resembling that of the brain, would be preferable to the delineated superficies or chart, which he has hitherto employed for its illustration. The anatomist, at least, would be thus better enabled to penetrate the scope of his design.—But I cannot coincide in opinion with this ingenious writer, that nosography should be *etiological*, or founded upon *causes*, and more especially *proximate causes*, (about which mankind will ever differ) rather than upon *symptoms*, or appearances of fact, which are demonstrable to the senses; and to this radical error of his design I ascribe the inconclusiveness of his reasoning upon several points. "I consider (says he) the *cause* of every derangement of the manifestations of the mind, as belonging to organic parts."

Whatever be the fruit of future labours in this department, it may not be without benefit, in the mean time, to bestow renewed attention upon the organs of digestion, assimilation, and excretion, which hold a manifest sympathy with the cerebral structure, and whose morbid conditions are variously associated with derangement of the mind. Whether these or the former enquiries will terminate in the discovery of a proximate cause of insanity,

p. 96. "The brain is an organic part, and *must* be curable." p. 100. Insanity is thus defined by the author: "Either the incapacity of distinguishing the diseased functions of the mind, or the irresistibility of our actions, or both together, characterise insanity." p. 77; which definition he elsewhere qualifies in the following terms: "Every disturbance, however, of any faculty is not insanity, but merely the want of the faculties which constitute liberty;" adding in a foot-note, "with respect to my considerations on liberty, I refer the reader to my work on the Physiognomical System, 2d. Edit. p. 503."—How far these definitions of insanity be founded in fact, or in just metaphysical science, it is not my purpose to enquire; yet I cannot but prefer the following clearer enunciation of his doctrine, with all its hypothetical contingencies. "*If* (says he) it be proved that the brain is the organ of the mind, and that the manifestation of every primitive faculty of the mind depend upon a peculiar part of the brain; and *if* all the primitive powers of the mind and their respective organs be once ascertained, it is evident that the cause of insanity will be looked for in the brain, and the cause of the deranged manifestations of every special faculty in a peculiar part of the brain." p. 115.—In the Salpetriere, in Paris, (an hospital accommodating 750 or 800 female lunatics) there are numerous casts of the heads of the insane. Sir Charles Morgan remarks, that "the sum total of information which they afford, is decidedly unfavourable to the physiognomical doctrines of Gall. Such at least is opinion of M. Pinel on the subject"

is extremely doubtful; but I am fully persuaded that much hidden knowledge of its remote causes, and consequently the means of its preventive and curative treatment, remain to be discovered in the channel of inquiry here recommended. The disorders of the abdominal viscera are more cognizable, both in the living and the dead subject, than those of the higher organ; they are also more generally accessible to medical practice, nor are they beyond the influence even of exterior discipline.

To assert the value of these physical researches is peculiarly necessary at the present day, when certain notions, respecting the paramount efficacy of *moral management* of the insane, are growing into prevalence. No doubt indeed can be entertained of the importance of this auxiliary, both in a humane and remedial aspect; yet if the labours of pathology be sacrificed to the light suggestions of disappointment or scepticism, the certain effect will be the retrogradation of useful science.

It was observed by Aretæus, that "the cause of insanity is in the head and præcordia; which are sometimes affected simultaneously, sometimes the one occasions the other. But the principal seat of disease in mania and melancholia is in the viscera, as that of phrenzy, is for the most part, in the head."*— From this sentence of antiquity, many revolutions of opinion might be traced down to the present times.

* Aret. de Causis et Signis Morborum diuturnorum, lib. 1. cap. 6.

But I shall content myself with adducing the judgment of one of the latest and most eminent writers on this subject, himself also a zealous advocate for the system of moral management. "The preludes of the invasion and return of manical attacks (says M. Pinel) may be various; but it seems, in general, that the primary seat of this alienation is in the region of the stomach and the intestines, and that from this centre it propagates itself, as it were, by irradiation, and deranges the understanding."*

It is to be regretted, that M. Pinel contented himself with barely reasserting this ancient doctrine, without developing its circumstantial import, or limiting the range of its application. In truth it is far less objectionably stated by Aretæus; who also intimates a distinction of causes, corresponding with the species, of mental derangement. I do not here allude to the distinction of mania and melancholia, which is yet very imperfectly ascertained, but to the different morbid phenomena produced according as the cerebral or the digestive organs happen to be primarily affected. Further researches will, I apprehend, tend to confirm the conjecture of this faithful interpreter of nature.

* "Traité Med. Phil. sur l'Alienation Mentale," p. 141. See also a passage of similar purport in the same author's "Nosographie Phil." Vol. III. p. 102.

"The greatest number of cases of insanity produced by sympathetic causes, originate from deranged functions of the digestive organs;—that sort of insanity which is very seldom cured by nature alone, and which is not sufficiently understood by medical practitioners." *Spurzheim's "Observations on Insanity,"* p. 300.

But while every other branch of pathology is extending itself by analytic enquiry, and the demonstrations of morbid anatomy, it is vain to expect that a less severe process of investigation will serve to fix the present fluctuating opinions respecting Insanity.

With a view to this desideratum, and with the hope of furnishing from time to time some slender contributions to so important an object, I venture to communicate to the public the following brief results of my observation of certain morbid conditions of the abdominal viscera, in some varieties of maniacal disease; with their several methods of remedial treatment.

The Hardwicke Lunatic Asylum, which contains *ninety-four* patients, male and female, is superintended by Dr. Bryan and myself, as Senior Physicians to the Hospitals of the House of Industry. Some changes in the interior arrangements of the Asylum, and extensive alterations in its structure, have hindered me, lately, from preserving a registry of the cases as accurately as I could desire. But these obstacles will speedily be removed; and the entire Medical Department of the House of Industry, comprizing *four** distinct hospitals, and accommodating more than four hundred patients, will then present a very extensive and complete field of scientific investigation.

* A Fever Hospital, a General Hospital for acute and chronic disorders, a Surgical Hospital, and a Lunatic Asylum.

Intestinal torpor, with increased secretion from the mucous membrane.

The first access of mania is frequently marked by an acute and febrile paroxysm. If the temperament of the individual be melancholic, it is usually preceded by a short period of dullness and despondency; if his complexional character be sanguine, the access is more sudden and violent. But in either case, complete mental derangement is frequently ushered in, by an acute and vehement paroxysm. In this state, (as it too often happens) the patient is first committed to the formal charge of his physician, in consequence, perhaps, of some sudden and unexpected outrage.

It is not my purpose here to discuss nosological arrangements, or to enquire by what criteria *mania* may be distinguished from *melancholia* under these circumstances. Besides the extreme difficulty of such diagnosis, in the incipient paroxysm, it is also in a great measure irrelevant to practical purposes.

On the first aspect of the patient, his dusky or suffused complexion, shining eye, and fœtid breath, denote the disordered functions of his stomach and bowels. His tongue is tremulous in its motion, often coated with mucus, or covered with froth, which lodges also in the angles of his mouth. His appetite is impaired or depraved; he complains of intestinal heats and considerable thirst; and his pulse indicates a febrile circulation. The heart appears to labour, and beats powerfully against the ribs; the ca-

rotid arteries dilate visibly, and by signs or words the patient complains of a throbbing in his head. On enquiry it is found that his bowels are constipated, sometimes in an extraordinary degree. His urine is scanty, or irregular, but commonly of a deep colour, depositing largely, and offensive in its odour.

Under these circumstances nothing is more remarkable than the fœtor which taints the atmosphere of the patient. It is most offensive when the alvine constipation has been of longest duration. As all the excretions partake of it, no less than the breath of the patient, and the unctuous surface of his body, it is highly probable that the odour is occasioned by a vitiated condition of the entire mass of circulating fluids. I have observed an exhalation of the same kind in three cases of Catalepsy, with obstinate constipation; and a fœtor somewhat similar occurs in the remittent fever of children. But in maniacal subjects I have even detected it in the cadaver, not only from the mucous surfaces, but from the moisture effused on the serous membranes of the brain.

If the abdomen of a patient labouring under an acute paroxysm be examined, it will commonly be found tumid, especially in the region of the epigastrium. Incidentally there may be evidence of a morbid state of the liver, but this circumstance is by no means essential to the disease. In some cases there is great sensibility to pressure about the hepatic region; in others no such tenderness appears.

That the seat of morbid derangement, under the circumstances here detailed, is at least in a great measure, in the digestive and intestinal organs, cannot be denied. Its precise nature must be learned, from a comparison of its symptoms, progress, and spontaneous issue, with the effects of remedial treatment, and the information of morbid dissection.

It so rarely happens that an acute paroxysm of mania is left wholly to a spontaneous course, especially when alvine constipation is a prominent and obvious feature, that evidence of an absolute nature on this head cannot easily be obtained. When medical aid is procrastinated, however, the symptoms before described become more urgent; perfect anorexia, inextinguishable thirst, foaming and spitting from the mouth, a florid countenance, intestinal ardor, exasperated fever, with restlessness and insomnium, supervene. If inadequate remedies be used, this state of things continues with little abatement, until nature (if I may use so comprehensive a term) affords relief by some critical evacuation. If this evacuation be by *hæmorrhage*, the relief afforded is precarious and transient, until other salutary operations concur to render the issue decisive. A spontaneous *vomiting*, when it happens (which is rarely the case) procures still less relief; and *perspirations* are almost wholly nugatory, except when the skin has been previously constricted in an unusual degree.—The true critical or salutary evacuation, in the cases above described, is effected by the intestinal canal. A spontaneous diarrhœa supervenes, for the most part suddenly;

the dejections are frequent, involuntary, and copious, in proportion as the patient is indulged in the gratification of his thirst. If the unassisted efforts of nature thus evacuate fæcal and mucous excrement, in consistent masses, great and often decisive relief is obtained to the patient. But it more commonly happens that the dejections are thin and acrid; the fluids taken into the stomach passing through the canal with little alteration, further than being impregnated with some morbid secretions. Under these circumstances, the diarrhœa is slowly converted into dysentery of the milder kind; the patient's strength and flesh waste rapidly, and if he is not seasonably relieved by judicious treatment, he falls into an incurable hectic atrophy. During this process the character of his insanity changes from violent excitation to more tranquil delirium, from restlessness to quiescence, at length to torpor, amentia, and insensibility.

This morbid history is obviously not intended as a representation of every case of the kind here contemplated; but so far as the observation of others has been confirmed by my own experience, I may assert, that it is either fulfilled or approximated in a large proportion of cases, which, through neglect or ignorance, have been withheld from timely medical assistance. Many examples of febrile exacerbation occur also in cases of *periodical* insanity, which are numerous in the Hardwicke Asylum, and are multiplied by its communication with the *depot* for incurable lunatics in the House of Industry. M. Esquirol computes, on a very extensive scale of facts,

that *three eighths* of the fatal cases of insanity terminate in diseases of the viscera.*

To restore healthy functions to the digestive organs, under the acute paroxysm above described, is by no means an easy matter. The frequent and throbbing pulse, turgid countenance, suffused eye, and depraved secretions, are evidences of vascular excitement, and subinflammatory condition of the system, which in young or robust subjects demand the use of the lancet. In such cases it is difficult to procure catharsis, and even hazardous to prescribe an emetic, without premising venæsection. The first blood-letting should not exceed twelve or fourteen ounces. So nearly is maniacal excitement allied to debility, that I have witnessed tremors, faintness and cold perspiration, in strong subjects, on removing a smaller quantity of blood than is here specified.

After this evacuation, the discharge of the morbid contents of the stomach and bowels becomes less difficult, and is best effected by exhibiting conjointly purgative and emetic drugs. A powder consisting of two grains of calomel and half a grain of emetic tartar, may be administered every hour, until vomiting is excited. If catharsis do not follow in a few hours, an infusion of senna with sulphate of magnesia and tincture of jalap may be given at short

* Dict. des Sciences Med. Art. Folie.

intervals, until the bowels are freely moved. Or if the patient's stomach should continue too irritable for this medicine, (after protracted retching,) a solution of Epsom salts in spearmint water may be substituted. Sometimes a large draught of cold water determines the bowels at once to evacuation.

After much fæculent and bilious matter has been discharged, there is at length voided a quantity of tenacious mucus, unlike the shining and gelatinous material which is expelled in hypercatharsis or dysentery. It is rather of a dull greyish hue, and uniformly viscid. In most cases it is very copiously discharged, bringing speedy relief to the febrile symptoms, and especially tending to remove the peculiar fœtor already mentioned. This viscid material seems to line the whole mucous surface of the primæ viæ.*

The operation of emetics discharges it copiously from the stomach; and the patient is often incessantly employed in disengaging a similar secretion from his fauces, and spitting it all around him. This spitting, (a feature which has hitherto been little re-

* Dr. Cox, in his very judicious "Practical Observations on Insanity," remarks, concerning the stomach, that "this viscus, in maniacs, seems very frequently the seat of the disease, being disposed to collect and retain indigested viscid sordes; and it frequently happens that almost the whole of the first passages are loaded with such mucous matter, and as it were, lined with mucous phlegm; and till this be removed, remedies are useless." p. 110.

garded,) is one of the most certain evidences of the general condition of the mucous surfaces, here described. M. Portal records, "that in opening the bodies of certain persons who had manifested symptoms of great thirst before their death, the mouth, the pharynx, the œsophagus, the stomach, and the intestines, have been found occupied by a tenacious secretion."* The coincidence, between this statement, and the facts connected with certain maniacal paroxysms, needs no comment.

In this morbid condition of the mucous membrane, it is not surprizing, that the stomach and bowels are with difficulty moved to evacuate their contents. It is, in the first place, obvious, that the extraneous sheath itself must render these organs less accessible to the stimulation of food or medicine. The same fact is observable in cases of *tænia*, and in several febrile intestinal disorders. But there is a further cause of constipation in many acute maniacal cases, not unlike what is observed in *hydrocephalus internus*; in which the intestinal torpor is frequently much greater than can be explained by the mechanical cause just assigned, and which does not yield in any certain proportion to the mere removal of this impediment. It is rather to be ascribed to inertness of the peristaltic energy, and to that disturbed balance of the visceral functions, which co-operate with disordered secretion, to impede the whole process of digestion, assimilation and discharge. The

* Anat. Med. tom. v. p. 72.

flesh and strength of the patient decline rapidly under these circumstances. In truth the resources of the system appear to be expended on the mucous membranes; while the supply of nutriment is cut off, both by the inappetency of the patient for food, and the derangement of the chylopoietic organs.

An emetic in the ordinary dose seldom produces any sensible effect. Several grains of emetic tartar are often required to excite vomiting. The consequence of this is usually a prolonged nausea and retching, followed by catharsis. If calomel be combined with tartarised antimony (as before recommended), the latter effect is more certainly produced. The concussion which the whole intestinal canal undergoes by these conjoint operations, speedily eliminates the mucous sordes, with other fæculent materials. The quantity of matter thus voided is often prodigious, and the present relief to the system is apparent. The fullness of the epigastrium subsides; the patient's tormenting sense of thirst is appeased, his tongue is partially cleared, and his excretions become less offensive. A short sleep follows; and thus far the animal and vital functions are repaired. Nevertheless the patient may awake, in a few hours, to a fresh paroxysm of mental excitement, without a single ray of recovered intellect. Let it not, however, be inferred, that small advantage has been gained towards the curative process. The train of disordered actions has been broken, some sources of mental irritation have been removed, fever has

been mitigated, and the digestive organs restored in some degree to their proper uses.

After the lapse of twenty-four hours from the first bleeding, it will, in many cases, be necessary to repeat the operation. This will be indicated by the throbbing celerity of the pulse in strong subjects, manifesting a condition of the vascular system under which the secreting organs cannot perform their due functions. I have ventured to call this condition subinflammmatory, in which neither the quantity nor the quality of the animal secretions can agree with the standard of health. Accordingly, if proper measures be not taken, the abdominal viscera speedily revert to the condition already described. To obviate this, a moderate venæsection of eight or ten ounces may be directed, and afterwards a mercurial purgative, the dose and composition of which must be determined by circumstances; due regard being paid to this important fact, that as bloodletting greatly facilitates the operation of purging, it supersedes the use of large doses of the stronger cathartics.—A copious discharge of bile usually follows the first evacuation of the contents of the bowels. The patient then recovers some appetite for food, which should be selected for him, of a light or fluid kind, and in moderate quantity. The process of digestion, when the organs are in a fit state for it, tends remarkably to tranquillize the patient and incline him to sleep.

Concurrently with the means here directed, the

patient's head should be shaved and diligently sponged with cold or tepid vinegar, iced water or æther. Blisters applied at an early stage of the disorder have appeared to me to be injurious, especially when laid on the scalp. An empirical practice of this kind, previous to the evacuations above recommended, has produced the most unhappy consequences. Fomenting the legs and feet, when their surface is below the due temperature, affords much relief, and often calms the patient when other remedies have failed.

The state of the tongue and of the secretions will determine the future discipline of the alimentary organs. I am far from recommending a purgative treatment as specifically beneficial in all varieties of acute mania. But, as a remedy (in conjunction with others) for that peculiarly disordered condition of the first passages, which obtains in so many acute maniacal cases, and which has not hitherto, perhaps, been regarded with the attention it deserves, I strongly advise the foregoing means of active catharsis. The benefit accruing from it, in the rapid amendment of the visceral organs, and their respective secretions, may be contrasted with the tardy relief obtained by following a different method, according to the practice of M. Pinel. In the *first stage* of recent maniacal paroxysms, this author prescribes acidulated drinks and emulsions; in the *second stage*, lotions to the shaved head, and emetic medicines; in the *sequel*, gentle exercise and warm bathing. On this plan (as he informs us), the al-

vine evacuations of the patient become more regular and less dark, (" dejections plus regulieres et moins noires") about the *fifty-second* day of the disorder; and by the *fifty-seventh* day the dejections become liquid, and the patient's hunger abates; " dejections liquides, faim plus moderè, mais toujours impulsions involuntaires a briser tout ce qui tombs sous ses mains." That, black and liquid dejections, so late as the eighth week of the disorder, should be the fruit of treating its primary stage, with acidulated drinks and emulsions, is to me by no means surprizing. I am at a loss only to reconcile this inert practise with the opinions of M. Pinel, already quoted at the beginning of this paper; or with the evidence continually before him of its palpable inefficacy. It is true, that all recent cases do not present constipation, or the mucous accumulation I have described; but if the course of M. Pinel's experience instructed him, that latent mischief in the visceral organs discovered itself sooner or later in every case, so as greatly to embarrass the treatment in a mature stage, it is remarkable that he should not have provided against this issue by a more timely discipline of their secretory functions. According to my own experience, and on the plan of treatment suggested in this paper, black and liquid dejections are neither periodical nor ordinary occurrences, in the acute disease.

As an alterative of the mucous and other secerning organs, I have found the Mercurial pill, in combination with Ipecacuan, to be highly serviceable.

Two grains of each may be given twice daily: and should the bowels become too relaxed, four grains of Dover's powder may be substituted for the ipecacuan. If the urinary discharge be deficient, Taraxacum, with or without the Squill, may be advantageously given.

In every disorder, local or general, it is obviously important to restore and preserve the functions of the system in their due balance and efficiency. Nor is this principle less applicable to mental derangement, than to other diseases, for which the materia medica has not hitherto yielded a specific remedy. Although the most judicious treatment will seldom restrain the fixed course of the small pox, measles, or the scarlet fever, yet no one entertains a doubt of the invaluable resources of the medical art, in conducting those disorders to a favourable issue. In like manner, in cases of insanity, whilst the practitioner is often foiled in his efforts to restore Reason as speedily as he would desire it, yet no inference can be drawn, even from the most intractable cases, that he should remit his diligence for a single day, in maintaining the best possible condition of the bodily functions; superadding such peculiar remedies, as experience or analogy may warrant him to employ, in the several kinds of maniacal disease. By attention to the digestive organs alone, the painful irritations of hunger, thirst or anorexia may be mitigated or removed. Nutrition, strength and cheerfulness, may also be considerably supplied. In females, the menstrual evacuation, so

important to the process of cure, is greatly influenced by the general condition of the abdominal viscera. The enjoyment of sleep, likewise, is considerably dependent on the same circumstances. But above all, when we contemplate the fatal cases of marasmus, diarrhœa, and dysentery, so common amongst maniacs, we are admonished to pay primary attention to these central organs of the animal œconomy.

Having thus regarded the most unfavourable case, of no immediate benefit to the understanding, accruing from the practice here advised, I may now assert, that in most cases very manifest relief is obtained. The patient becomes more tranquil and amenable, and derives from the comforts of food and sleep, considerable appeasement of mental irritation. My experience does not furnish me with a sufficient number of examples, to form a solid conclusion as to the efficacy of this initiatory method in curtailing the eventual term of the disorder, or securing the patient from relapses. But I have every reason to anticipate, in time, satisfactory evidence on each of these points.

Various opinions have been expressed by writers on insanity, respecting the efficacy of Sanguineous depletion. The excessive, and especially, the indiscriminate venæsection, so fatally adopted by some practitioners in the last age, has excited more than salutary caution, in this particular, at the present day. The rash precept of Hoffman, to bleed every maniac into a state of debility, had been too often

followed in England, but much more implicitly in France. M. Esquirol mentions a patient who was brought to him at the Salpetriere, after having been bled thirteen times in forty-eight hours. The result of this practice has been, in some cases, to convert deep melancholy into fury; in others, to precipitate phrenzy into incurable imbecility both of body and mind.

The advice of Sydenham, as to Bleeding, is characterized by his usual discernment and good sense: "Take away eight or nine ounces of blood from the arm in young subjects; and repeat the operation twice or thrice, at the distance of three days between each bleeding, and then bleed once from the jugular vein."* The last operation seems to be fancifully recommended; but as I have never put it into practice, I cannot determine its propriety. The obstacles to withdrawing blood from the jugular vein in maniacal cases, are so great, and often insurmountable, that I have persisted in it in one case only of sudden phrenzy; in which it did not appear to me, that any advantage was derived over the ordinary method of drawing blood from the arm. I have also directed the temporal artery to be divided in acute cases, but have no reason to commend its superior efficacy. In chronic cases of melancholia, with pain and giddiness of the head, I have used leeches and cupping glasses with good effect; yet I am by no means certain that equally good effects might not have been derived from a small blood-letting at

* Syden. Process. integ. in loco.

the brachial vein ; and the precision and convenience of this process obviously recommend it to preference.

M. Pinel pronounces an unfavourable judgment of the efficacy of blood-letting. But as he treats of this remedy in a vague and general way, without reference to any given symptoms or circumstances, his authority can be justly quoted only in disparagement of indiscriminate venæsection. He indeed candidly acknowledges, that, " since he undertook the care of the hospital for the insane, blood-letting has been so very rare an occurrence, as to form an epoch in the transactions of the asylum." In this, however, as in many other features of his medical practice, the scientific physician will regret, that M. Pinel has abandoned himself too lightly to his favourite, maxim of " delivering his patients to the course of nature."

I have every reason to believe that the practice of moderate blood-letting at intervals, as prescribed by Sydenham, is highly salutary in a great proportion of acute cases. The sub-inflammatory condition of the system, which has been described in the foregoing pages, peculiarly demands this mode of treatment, and bad consequences have appeared to me to follow its neglect. The maniacal paroxysm has been protracted, the digestive organs deeply injured, and in several instances fatal marasmus has ensued.

The fatal cases of apoplexy supervening the operation of emetics, may sometimes, and perhaps generally be referred to the omission or scantiness of blood-

letting, previous to such discipline, in acute cases or sanguineous subjects. That fullness of the vessels of the brain, which is marked by stupor or delirium, with headach, red eyes and a flushed face, is always relieved by venæsection : That congestion also of the abdominal viscera, or of any one of them, which is characterized by deficient secretion, by local tenderness, and quickened circulation, generally demands blood-letting for its relief. In such cases purgatives alone, and especially the more drastic ones, tend to encrease irritation and fever ; whereas bleeding (in proportion to the urgency of the case) by resolving the plethoric tension of the organs thus morbidly engaged, restores the lost capacity of secretion and elimination.

The utility of Emetics has been maintained and challenged, in a like desultory manner, as the foregoing remedy. But this contrariety appears to me to admit of an easy solution, by a comparison of the circumstances under which they have been exhibited by different practitioners. When Mr. Haslam informs us, that, " after the administration of many thousand emetics to persons who were insane, but *otherwise in good health*, he never saw any benefit derived from their use," he states a result, which, (with the qualifications implied in so very general an assertion) every intelligent practitioner would probably anticipate. When he further informs us, that in Bethlem Hospital " the course of emetics usually continued six weeks, in the spring of the year," we are surprized, not at the inutility of this mode of treatment, but that the medical superintendant,

whose directions Mr. Haslam followed, should ever have devised it. The same writer, however, justly acknowledges the beneficial operation of emetics "in a disordered state of the stomach, or in gaining some ascendancy over a furious maniac."*

It has, in truth, been the ill fortune of this class of diseases to have been subjected to less rigid analysis or careful pathological investigation, than any other morbid affections of equal importance. The search for *specifical* remedies has indeed been indefatigable; and the farce of "Helleborisme" has not been the only ludicrous demonstration of this error. Purgatives, emetics, digitalis, bleeding, inanition, baths, moral management, have had severally their exclusive advocates, so that almost every writer on the subject of insanity has exposed some favourite practice to the animadversion of his successors.

Whenever inappetency for food is attended with a coated tongue and slow bowels, an emetic is an invaluable remedy. Purgatives alone seldom or slowly effect the removal of mucous sordes even from the bowels, and still less certainly from the stomach; and of the tendency of maniacal disorder, not only in its exacerbations, but sometimes also in its chronic state, to generate this material in undue quantity and vitiated quality, experience affords ample testimony. The excitement of nausea has the peculiar effect of encreasing the exhalation of

* "Observations on Madness and Melancholy," &c. 2d edition, pp. 331. 332.

thin fluid from the mucous membranes, which serves first to detach, and then to facilitate the discharge of the more tenacious material adhering to their surfaces. The biliary, pancreatic and gastric glands are at the same time emulged, and the irritation excited by their undue repletion is thus compendiously removed.*

Many incurable lunatics are subject to periodical exacerbations of insanity. During the lucid intervals, their bowels are not usually costive, but rather prone to relaxation. Antecedently to the periodical attack, however, they become constipated, and are often with difficulty moved;—so nearly allied is derangement of the sensorium with disorder of the abdominal viscera. In chronical cases of this kind there is seldom much fever; but the tongue is coated with mucus, the eyes glisten, and the countenance becomes suffused and dusky. In these cases I have hitherto seldom used the lancet, but have adopted

* Much has been said and written on the choice of emetic drugs appropriate to cases of insanity. Necessity often obliges the practitioner to choose that which is least bulky, most readily soluble in any fluid, insipid and inodorous. The crystallized tartarite of antimony possesses these requisites; and is at least not exceeded in efficacy or safety of operation by any other officinal article. Those who have been at the pains to make comparative trial of emetic drugs, seem to be nearly unanimous in their preference of this metallic salt. Some excellent observations on the use of emetics in maniacal cases, will be found in Dr. Cox's "Practical Observations on Insanity;" yet I must acknowledge, that the judicious author places more general reliance on their efficacy than I am prepared to avouch.

the emetic and purgative process on the access of the paroxysm. After the first evacuations, I have kept up an irritation in the intestinal canal, with moderate and repeated doses of the rectified oil of Turpentine; exhibiting from one to three drachms daily, during the exacerbation. The effect of this remedy is almost uniformly tranquillizing, and sometimes soporific. The noisy pervigilium which so commonly attends these periodical fits of mania, is remarkably subdued by it; and the term of the attack, in some cases, as remarkably abridged. When the medicine passes too rapidly through the bowels, its effects are less salutary, and its dose should be diminished. It is necessary to add, that the patients whom I have submitted to this treatment, have been confirmed and incurable lunatics. To mitigate and curtail their periodical sufferings is, perhaps, all that art can effect; and the remedy here specified has appeared to me more generally efficacious for these purposes, than any I have hitherto employed.

Diarrhœa.

From the extreme torpor of the stomach and bowels, which obtains in many cases of mental derangement, an erroneous opinion has prevailed, that obstipation is an usual attendant on that disease. The fact in chronical cases is generally otherwise. The bowels are more tender, and susceptible of laxity from errors in diet, exposure to cold, and even changes of the weather, than is observed in equally robust persons of sound mind.

Strumous habits, which are prone to mesenteric disease, fall most readily into diarrhœa. Idiots are more frequently the subjects of this disease than maniacs; in truth, when it supervenes on maniacal disorder, and becomes severe or lasting, it very often precipitates the patient into fatuity or amentia. A severe and intractable diarrhœa is often entailed on mismanagement of the digestive organs, in the first stages of mania; in which vascular excitement, disordered secretion, and accumulated fœculence, are suffered with little control to destroy the economy of the visceral organs.

A spontaneous diarrhœa sometimes occurs at the close of a maniacal paroxysm. In these cases it has been deemed critical and salutary; of this, however, I am less certain, than that such paroxysms may terminate more favourably without that sequel. In most cases I believe it will be found to result from improvident treatment. When it occurs, it demands a cautious practice. If the pulse and strength of the patient will bear it, or if, in the language of the schools, irritative fever be present, a moderate bloodletting should be premised. The pulvis hydrargyri cum cretâ, combined at first with rhubarb and afterwards with Dover's powder, has appeared to me to be among the best remedies. A pill composed of opium, ipecacuan. pil: hydrarg: and carb: ammoniæ, has also proved efficacious. The warm bath is a powerful auxiliary, and should be resorted to for an hour every day, together with the usual means of encouraging diaphoresis. The diet of the patient should be light, nutritive, and not sparingly

dealt out to him. He is usually, under these circumstances, clamorous for food; and although the edge of his voracity may be allayed by the opiate combination just mentioned, yet his tranquillity depends much on a liberal supply of aliment. The beverage recommended by Sir John Pringle, and afterwards by Dr. Heberden, consisting of suet carefully dissolved in boiling milk, is commonly found to agree well with such patients. A little hartshorn may be added when a tendency to acescence prevails. The patient's dress should be warm, and his apartment, though ventilated, should, if possible, be kept in a summer temperature. If he begin to recover his flesh and strength, a favourable issue may be expected; if otherwise, it is probable that organic disease has been established, and that hectic fever and atrophy are impending.

There is no disorder more to be apprehended in advanced maniacal cases than diarrhœa. I do not, of course, mean incidental laxity of the bowels from cold or indigestion, to which the insane are very liable, but the chronic malady to which that term is properly given. The symptoms may vary in severity, and the progress of the disorder may be uncertain, but the event is commonly fatal. On dissection of these patients, the intestines generally exhibit an extensive mass of disease. The mesenteric glands are enlarged and indurated; the mucous membrane inflamed, thickened, and partially eroded, and the area of the canal diminished, often considerably, in the lower intestines. As the greater number of deranged per-

sons are of scrofulous habits, these morbid appearances are not infrequent. By what process of sympathy or conversion this disorganization is associated with mental derangement, it is not easy, in the present state of science, to offer a probable conjecture. Where incurable diarrhœa is formed, the patient sinks into fatuity, and at length into inertia.

It is a fatal practice to encourage diarrhœa, under the vulgar notion of its critical salubrity. To arrest it suddenly, by astringent medicines, under any circumstances of sanity or insanity, may be hazardous. But in the cases here contemplated, it is expedient to conduct the disorder by safe means (which are too well known to require enumeration) to an early and perfect issue.

A certain class of insane patients are liable to induce this malady, by devouring not only excrementitious matters, but such foreign substances as, by their mechanical and chemical action, destroy the functions of the viscera. A patient was sent to the Hardwicke Lunatic Hospital, labouring under pyrexia, with great heat of the stomach, voracious appetite and thirst, and continual diarrhœa. The epigastrium was full, and tender on pressure, the skin dry, urine high coloured and scanty. I directed a vomit of tartarized antimony, which discharged some mucous and fluid matter tinged with green bile. I then prescribed a combination of Dover's powder with pulvis hydrarg. cum cretâ ; and afterwards the

mistura cretacea with tincture of opium. The patient was fed on milk and lime water, boiled rice, and other nutritive matters of light digestion; and was placed in the warm bath for an hour every evening. He sunk rapidly into emaciation and torpor, and differed little in appearance from a corpse, for several days before his death. On opening the cavity of the abdomen the peritonœal surfaces were found to be united by extensive adhesions. The stomach was closely contracted on its contents, but did not appear externally inflamed. It felt solid; and on laying it open, a compacted mass of hay and straw, larger than an orange, presented itself. These materials were neither altered in colour nor softened in substance, although the hay must have been lodged in the stomach longer than a month, as that article is not used in any part of the hospital. The mass was moistened by a purulent secretion from the lining membrane of the stomach, which, with the entire mucous tissue of the alimentary canal, was in a state of chronic inflammation, much thickened and encreased in vascularity, but without any separation of texture. The entire canal contained about half a pint of prurulent fluid. The other abdominal viscera were sound. The deviations from healthy appearance in the brain were, an effusion of about half an ounce of turbid serum within the arachnoid membrane; a small sac containing a gritty matter of white colour in the right anterior lobe; a softer granulated mass in the plexus choroides; and a small portion of fluid in the cavity of the ventricles.

The marasmus of which this patient died, was obviously occasioned by the mass of hay and straw in his stomach, which was so impacted that neither emetic nor cathartic medicines could have procured its evacuation. The extreme dementia of the patient precluded any hints of the fact which had happened; and as no pain or acute inflammatory fever occurred, the case was treated with the usual remedies of diarrhœa or mild dysentery.

Voracious and depraved appetite.

Besides the foregoing disorders of the primæ viæ, there are two affections of the stomach, very different in their kind, which frequently occur in cases of mental derangement. The one is *bulimia*, or insatiable appetite, the other *anorexia*, or extreme aversion to food.

A voracious appetite, unattended with marasmus, is by no means a symptom of danger; yet it commonly indicates confirmed insanity tending towards fatuity. This pica is an extremely troublesome affection, and I doubt not very distressing to the patient. Even when it occurs in sane or hysterical subjects it is a source of acute uneasiness; and although in deranged subjects it appears to consist with tolerably good health, and is therefore often disregarded by the medical practitioner, yet I cannot think it undeserving of his attention. What-

ever tends to augment the sufferings of such persons, and especially to irritate their tempers, becomes strictly a subject of remedial treatment, and imposes the task of enquiring into its causes and the means of its relief.

The inner coat of the stomach abounds with glandular organs, from which mucus, lymph, and gastric fluid are continually distilled. Both the quality and the quantity of these secretions are subject to deviation from the healthy standard, by many known and probably some unknown causes. The biliary and pancreatic products are also liable to frequent variations; and no facts are better ascertained by their sensible results, than the sympathies existing between the digestive organs and the sensorium commune.

Morgagni, in attempting to explain the causes of insatiable hunger, quotes the opinion of Bontius, that it is referable to glandular infarctions in the mesentery, which was confirmed to him by the experience of Albertini.* I have no doubt of the justness of the observation in reference to many cases, yet cannot believe it to be applicable to the great bulk of those instances of mania, in which a ravenous appetite subsists for many years, without indicating disease of so formidable a nature. M. Portal† refers painful hunger to an undue absorption of the thinner part of the fluids secreted by

* Ep. xxviii. c. 3. † Anat. Med. v. 168.

the stomach, and the consequent irritation of the supposed concentrated residuum. This may doubtless be a frequent cause of bulimia. The strange masses that are sometimes rejected from the stomachs of the insane, demonstrate the capricious action of the secerning vessels, and to these depraved functions, independently of mechanical agencies, much of the distress may reasonably be assigned. That the secreted fluids are acescent in their quality, is proved by the relief which magnesia, lime-water, and the alkalis afford in most cases. But these agents being chiefly chemical, their benefit is often transitory; so that the practitioner is obliged to consult the further resources of his art.

A vomit will frequently allay this irritation of the stomach for many days. Nauseating drugs also, so long as they are employed, will suspend the voracity, but by no means tend to permanent relief. Small doses of opium or cicuta, combined with the blue pill, have much more salutary influence in controling or amending the vitiated secretions.* These reme-

* "The American Indians are said to use a composition of the juice of tobacco, and the shells of snails, cockles, and oysters, calcined, whenever they take a long journey, and are likely to be destitute of provisions. The mass is dried and formed into pills of a proper size, to be held between the gum and lip, which being gradually dissolved and swallowed, allay the sensations of hunger and thirst." Manch. Soc. Memoirs, vol. 2. p. 480. The efficacy of this combination of narcotic and antiacid materials corresponds with my own experience of the benefit of similar drugs, in allaying the nervous excitement of the stomach, and correcting its acidulous secretions.

dies, therefore, may be used in urgent cases, premising, and now and then repeating, an emetic. Milk, with a certain proportion of lime-water, is the best diet drink. The food of the patient should be substantial, and distributed at equal intervals through the day.

When I first engaged in the care of the Hardwicke Lunatic Hospital, animal food formed no part of the general dietary. The allowance of farinaceous diet was indeed ample, and its quality excellent; yet most of the chronic patients were clamorous for more food, even immediately after their meals; and not a few were subject to great excitement from their painfully urgent sense of hunger. The Governors of the House of Industry acceded, with their usual promptness and liberality, to my proposal of introducing one meal of animal food in the day; and half a pound of beef was served to each patient, with a due allowance of bread or potatoes, for his dinner, at two o'clock. The good effects of this change were remarkable, and even exceeded my expectations. The clamorous voracity which was before endemic, disappeared almost entirely. The temper, tranquillity, and comfort of the patients were visibly improved; and a very troublesome proneness to laxity of bowels was at once obviated. M. Pinel, speaking of a certain period, in which the lunatics of his hospital were reduced to small allowances of farinaceous food, makes the following observation: "Les suites ont été des flux de ventre sereux, et des dy-

senteries funestes."*—The patients of the Hardwicke Lunatic Asylum being chiefly of the lower orders, had not been generally accustomed to the use of animal food, at any period of their lives, and certainly not during the previous term of their confinement. The change, therefore, was a considerable one, and the inference to be drawn from its success, is on that account the more decisive.†

When voracious appetite occurs in maniacal cases, in the better ranks of life, a plentiful diet is generally necessary, both for the tranquillity and the comfort of the patient. It is, in truth, from erroneous methods of an opposite kind, that depraved appetite is very often engendered; and when the habit has been formed, the aid of medicine is required to subdue it. A writer ‡ already frequently quoted, has recorded some very striking facts, to demonstrate the fatal error of enforcing a rigid abstinence on the insane. The mortality which prevailed in the Bicetre and the Salpetriere, when an attempt was made to reduce the daily allowance of the patients to very

* Traitè Med. Phil. p. 234.

† The facts and conclusions here stated are at variance with the observations of a highly respectable physician, Dr. Halloran of Cork. The reader is referred to the 93d and following pages of his "Enquiry," &c. My deference to the judgment of this writer might render me reluctant to notice this contrariety of opinion, were I not fully assured that he is equally desirous as myself, that so important a point should be subjected to the fullest investigation.

‡ M. Pinel, Traitè Med. Phil. p. 238. Nosog. vol. iii. p. 113.

scanty portions of farinaceous food, stands a monument of indiscretion, to instruct superintendants of all similar institutions.

In the Retreat at York, which is in most respects a model for lunatic asylums, the dietary is substantial and abundant; and the patients are encouraged to recline or sleep on their beds after the principal meal of the day. Wine also appears to be liberally given; but of the general use of this article I have had no experience; the hospital under my care being designed for the inferior orders, and the great bulk of patients, (as in similar establishments) consisting of chronic or incurable cases, the habitual use of wine is precluded by its expensiveness. But I have frequently occasion to direct a pint of porter as extra diet, for those patients whose sanguineous circulation is slow, and whose extremities are of a blueish colour, cold and torpid.

It is not uncommon for ravenous patients, who are inadequately supplied with solid food, to devour whatever they can convey to their mouths; the materials of their dress or bedding, the soil upon the ground, and even their own excrements. Where propensities of this kind occur, as they do periodically in some cases, I direct a grain of Tartar Emetic to be given every half hour, till the stomach is freely evacuated. Afterwards moderate doses of the tincture of Opium and Digitalis have effectually allayed the unnatural craving. Perhaps masticating tobacco might be serviceable in such cases.

Aversion to food.

It remains for me to notice an opposite condition of the digestive organs, which is attended with chronic aversion to food. This affection is by no means uncommon; it is difficult to manage, and hazardous in its consequences. The subjects of it are usually melancholic patients, in whom it is attended with slow bowels, a foul tongue, and fœtid breath. That in most of these cases it has its true origin in visceral disorder, may, I think, be demonstrated: and, even when a sudden anorexia may appear to be referable to mental caprice in its commencement, it will soon be found to involve physical disease.

Sometimes a feeling of resentment towards his keeper will induce a maniac to reject all food that is offered him; imagining that by so doing he avenges some real or supposed ill treatment. Sometimes a superstitious hallucination will tempt him to make a vow of rigid abstinence, which he observes, until the pain of hunger, or weariness of devotion, changes the current of his thoughts, and absolves him from his mental engagement. But the sentiment which peculiarly haunts the insane hypochondriac, is suspicion of fraud or injury designed against him; and if this suspicion happen to be fixed upon his food, as a likely vehicle for the

malice of his supposed enemies, the prejudice is extremely difficult to be overcome. The silence, dullness, and hebetude of these patients, with their dusky complexion, dry skin, and vitiated secretions, denote bodily disease incontestibly. Nor is there less manifest evidence of disease in cases of a different description.

As in some instances, the apprehension of poison is associated with the patient's dislike of food, so in others, a resolute purpose of self destruction attends an aversion still more obstinate and alarming. Cases of the former kind yield commonly to medicinal and tender management; but the latter have sometimes eluded every effort of skill, and eventually proved fatal. An instance of this kind occurred to my observation not long ago.—An elderly man was brought to the Hardwicke Lunatic Hospital in a state of great debility and emaciation. He was reported to have taken no food nor uttered a syllable for twelve days. His countenance was fixed and ghastly, his eyes sunk, and his whole body torpid. Though he appeared to be in the last extremity, he struggled much against the means employed to introduce food into his stomach, and to evacuate his bowels. The latter was very scantily effected, and the former was nearly, or perhaps wholly frustrated by his efforts at vomiting. By artificial warmth his life was preserved for some days, when he at length expired without a struggle. I regret extremely a circumstance which prevented the examination of his body after death.

A middle aged soldier, tall, and of a fixed melancholy aspect, made an attempt, when on duty in the Castle Yard, to cut his throat with a razor, which opened the larynx, but effected no material injury. He was immediatcly conveyed to the Hardwicke Hospital, where I found him in mute and almost lethargic despondency. He had no symptom of fever, but manifested a determined aversion to food. As he refused also to swallow any medicine, the forcing instrument was produced on the following day, when he consented to take a little broth; which which was made the vehicle of a dose of calomel. His bowels were slowly affected by the medicine, and his taciturnity, his dislike of food, and his resolution to destroy himself, continued for several days. Neither he nor his friends assigned any motive for his rash conduct; bnt he had been before confined for mental derangement. His bodily health improved gradually under a course of mild purgatives, with twice or thrice an emetic, from which he derived much benefit. He was treated with kindness and encouragement; which converted his timidity into cheerful confidence. His food became soon palatable to him; the tædium vitæ disappeared, and in less than two months he was restored to his regiment in good bodily and mental health.

An elderly female of melancholic aspect was brought to the Hospital last summer, on having made an attempt at suicide, in the same manner as in the preceding case. Her mental derangement was more strongly marked; and her resolu-

tion to destroy herself, and to reject all food, was more clamorously expressd. Her breath was extremely fœtid, and her tongue coated with mucus. A Terebinthinate injection, followed by the warm bath, pacified her a little. But it was found necessary, more than once, to force medicine and food into her stomach. The wounds in her throat healed slowly, as she took every means to tear off the adhesive plasters, and by throwing her head backwards, to prevent the union of the severed parts. Her hallucination was of a religious kind: a lively persuasion that she already suffered the torments of the damned. She was of a pale emaciated habit, her eyes downcast and without lustre, and her pulse slow and feeble. By a cordial diet and mercurial alteratives, she gradually recovered her health and spirits; and the warm bath, from which she at first shrunk with horror, was afterwards highly grateful to her. She became convalescent in six weeks, and returned to her home before the expiration of three months.

In each of these, as in many similar cases, I conceive it would be rash to pronounce that the aversion to food, or the tædium vitæ, was simply a fancy of the mind, uninfluenced by bodily disorder. It may be difficult to assign precisely the organic derangement which belongs to this malady. But sufficient evidence of impaired or depraved digestive functions, appears from the symptoms, the spontaneous crisis, and the effects of remedial treatment in all such cases. However slight be the commence-

ment of this disorder, a few days, or a few hours (as we learn also from hypochondriacal cases) may aggravate it to a serious amount. Abstinence alone will produce anorexia; and disemployment of the alimentary organs tends always to disease. It is well ascertained in cases of inanition, that the desire for food, after a certain period, ceases altogether; and that the pain of hunger is lost in consequent debility, fever, or delirium. When such examples occur, therefore, in subjects of lunacy, it is of the first importance to regard them, in reference to bodily disease, and to lose no time in adopting a plan of medicinal treatment. Mild mercurial purgatives, the warm bath, frequent injections, a light but nutritive diet, administered, by art or persuasion, are the chief resources in this emergency. If phrenitic symptoms appear, blood-letting, and cold applications to the shaven head will be indispensable. If cataleptic appearances should come on, venæsection is also requisite, with boluses of calomel and scammony. A case of this latter kind occurred to me in a young woman, which resisted several remedial plans, but yielded at length to repeated bleedings, with mercurial purges, and her convalescence commenced as soon as her mouth became sore.

Sometimes anorexia and bulimia occur alteranately, and run rapidly into extremes. These are undoubtedly indications of disordered organs, requiring medicinal treatment. They are attended with intestinal heats, cardialgia, and sometimes pyrosis.

Extreme thirst is borne with less patience than hunger; so that many maniacs who refuse solid aliment do not reject grateful fluids. By such vehicles I have often administered full doses of tartar emetic, with great benefit, if the operation be downwards, as well as by vomit. The eagerness of some patients to drink pure water, when they refuse all other aliment, is itself generally an evidence of disordered *primæ viæ;* which should direct the physician's attention to other means besides moral or mechanical devices * to introduce food into a stomach which is perhaps unfit for its reception.

It does not appear from dissections that lunatics are prone to scirrhus of the stomach or pylorus. But they are undoubtedly prone to hepatic disease of various kinds; and hence often arise incurable disorders of the primæ viæ. Chronic anorexia, so far as I have observed it, is always attended with torpor of the liver, indicated by pale and scanty fæces, cadaverous complexion, and inert bowels. Under these circumstances the flesh wastes, and a confirmed aversion to food is soon established. Not unfrequently

* When through a transient caprice or resentment, a lunatic rejects all food brought to him by his keeper, an easy and successful stratagem may be practised. Let bread or biscuit be so secreted in his cell, that the patient may discover the supply by accident, and imagine himself to be the only possessor of the secret; which will induce him to eat the food clandestinely, and to pique himself on having outwitted his attendants. Thus his caprice is prevented from confirming itself by bodily disorder, and physical anorexia.

these symptoms attend the access of a maniacal paroxysm. M. Pinel justly remarks in his Nosography, that "one of the most dangerous symptoms, and greatly to be apprehended in certain invasions of insanity, is the obsinate refusal of nourishment." Under his mode of managing the disease, this abstinence from food was "protracted seven or even fifteen days; but without loss of life, if the patient drank frequently and copiously." Whether the means employed by M. Pinel, viz. "emulsions and acidulated drinks" are fitted to abridge this period of inanition, and to obviate this hazard of life, rather than the active remedial discipline suggested in these pages, must be determined by the suffrage of intelligent practitioners.

The term to which life may be prolonged without aliment is uncertain. It varies, of course, with the incidental circumstances of the case, and the constitutional powers of the individual. It is remarkable, however, that deprivation of food is better borne in some species of disease than in robust health. In some hysterical cases, and slow schirrous affections of the cardia or œsophagus*, a degree of abstinence

* In the Edinburgh Medical Essays, vol. vi. a case is related of a young girl who fasted at one time thirty-four days, at another time fifty-four days, from some morbid affection of the œsophagus. M. Pouteau in his "Œuvres Posthumes" mentions a young lady, who being unable to retain solid aliment on her stomach, subsisted eighteen mouths on syrup of capillaire mixed with water, and in that time grew two inches and a half." See Med. Com. vol. ii. art. 13. Consult also Mem. Lit. & Phil. Soc. Manch. vol. ii. p. 467, & Annals of Medicine, 1799. p. 503. Morgagni, Ep. 27, &c. &c.

has been endured for many months, which, in other circumstances, have hardly been sustained for as many weeks. In catalepsy also very rigid abstinence may be borne for a considerable period.

In the memoirs of the Academy of Sciences for the year 1769, the history of a maniac is recorded, who lived forty-seven days, without any other aliment than a pint and a half of water daily. During thirty-eight days he stood constantly in the same posture; when he at length sunk, and refused to take even water. With such powers of life as this man evinced, what might not have been accomplished by by the active remedies which his case demanded?

Dr. Willan relates * the history of a young man who, though not deprived of his intellects, laboured under some religious illusions, heightened, perhaps, by his dyspeptic ailments. Having resolved on a course of severe abstinence, he limited his daily ingesta to half a pint, or at the utmost a pint of water, into which he squeezed a small portion of the juice of an orange. In this plan he persisted rigidly for the space of sixty-one days; when Dr. Willan found him extremely emaciated, and his mind wandering. Although he now submitted to enlarge his diet, under very judicious cautions, yet his vital powers were so far exhausted that he died in a few days.

* Med. Comm. Vol. ii. art. 13.

MANIACAL EPILEPSY.

A very deplorable species of insanity supervenes upon certain cases of epilepsy. It is of the chronic and periodical kind, tending more or less rapidly to fatuity. Patients of this class are usually deemed incurable : yet their maladies admit of alleviation, and their sufferings call for every aid which medical art can afford.

For the relief of epilepsy various medicines have been proposed. In the year 1813, I made trial of the rectified oil of Turpentine, and published the Cases and results in the 9th vol. of the Edinburgh Medical and Surgical Journal. Since that time I have had numerous proofs of its salutary uses ; sufficient to satisfy me, that it is incomparably the most efficacious remedy that we are yet acquainted with, for that intractable disease. I have therefore made extensive application of it in the epileptic cases of the Hardwicke Lunatic Asylum. All of these cases had been of long standing, and deemed incurable ; so that alleviation of suffering was all that could be hoped for. I was not able, in a single instance, to banish permanently the epileptic attacks ; but in every instance they became considerably milder, less frequent, and remarkably disengaged from the maniacal excitement which had formerly attended them.

I have notes, lying before me, of twenty cases, thirteen of which are of females, and seven of males, all past the age of thirty. To give the whole to the reader, would swell this paper to an unreasonable bulk; yet to select from them might be hazardous. I shall therefore content myself with adducing the smaller entire number; viz. the seven cases of epileptic insane men. They all commenced the use of this remedy about the same time, the 11th of October, 1816, and laid it aside in the middle of February following, completing a period of four months. The Reports were taken partly by myself, and partly by my intelligent clinical assistant, Mr. Stack.

CASE I.

Joseph Robinson, æt. 45, of spare habit, (with nothing remarkable in his features or the form of his head) was attacked with epilepsy twelve years ago, on occasion of a sudden alarm. He was two years confined in the lunatic wards of the House of Industry; from whence he was removed into the Richmond Asylum, and shortly afterwards transferred to the Hardwicke Lunatic Hospital as an incurably insane epileptic. (Oct. 6, 1816.) His fits now recur every week, or oftener, in a mild form; and at intervals of six or seven weeks, in severe and repeated exacerbations, attended alternately with furious and lethargic mania. The duration of these paroxysms is usually six days; when the deprivation of his sense is so perfect that he passes his evacuations without no-

tice or apparent consciousness, and requires constant confinement in a cell, the floor of which is bedded with straw.

On the 11th of October, about three days previous to an expected recurrence of the epileptic paroxysm, I directed for him a Terebinthinate mixture; prepared, by triturating an ounce of the rectified oil of Turpentine, with an equal weight of loaf sugar, adding very gradually a pint of spear Mint water. A full dose of the emulsion is an ounce three times a day.

This medicine purged him freely. The paroxysm commenced on the 13th, but in a much milder form, and with less mental derangement than on former occasions. It continued only four days. The medicine was intermitted in that period; and having before excited catharsis, I directed half an ounce only to be given, thrice in the day. Its effects were cordial and gently aperient. From the 17th of October he had no threatening of a fit, until the 26th, when it recurred so slightly that he did not even lose his recollection. On the 29th, however, he had a fit as formerly, except that it was neither preceded nor followed by any peculiar mental excitement. On the 7th of November, he had again a very slight fit. But he was now manifestly improved in health and cheerfulness; and was so sensible of the benefit he had derived from the medicine, that he was studious to express his gratitude, and to assure me of

his renovated comfort. He had no recurrence of epilepsy until the 19th of December, when he betrayed some tendency to his former state of maniacal excitement; which induced me to restore the original dose of the Terebinthinate mixture. The next fit occurred on the 9th of January; and though the convulsion was rather severe, it was neither preceded nor followed by disorder of his mind. From this period until the 12th of February, when I laid aside the medicine entirely, he had no epileptic affection.

CASE II.

Oct. 1816. Patrick Cosgrave, æt. 50. an athletic, sanguineous subject, had a severe fall on his head five years ago, which deprived him of the use of his faculties for some days. He became subsequently liable to maniacal and epileptic disorder, by indulgence in spirituous liquors, to which his occupation as a publican habitually exposed him. He has been in the Hardwicke Hospital three years; and during the whole of that period has been subject to mild fits of epilepsy, at irregular intervals of two, five, or even six weeks, and to periodical exacerbations of more severe and repeated convulsions, three or four times in the year. The fits of epilepsy, whenever they occur, are preceded and followed by such maniacal excitement as to require seclusion in his cell.

On the 11th of October, he began the use of

the rectified oil of turpentine as directed for Robinson. But the dose of an ounce three times a day purging him severely, it was reduced to half the quantity. On the 29th, he had a fit of epilepsy, with some incoherent exclamatious, which lasted only a few minutes. From this period he had no return of the disorder until the 9th of December, when it occurred without any maniacal symptoms as formerly. His health and spirits appeared much improved; and although his mind was weak and excitable, in a degree which rendered it unsafe to remove him from the Hospital, and expose him to fresh hazard of intoxication, yet it could hardly be affirmed that he was insane. On the 17th of the same month he had another attack of epilepsy, but without maniacal excitement. The first dose of the medicine was now resumed. He had a fit on the 3d of January following; but none afterwards during the time of his taking the remedy, which continued till the 12th of February. This was the only patient who complained of pain in the urinary organs from this free use of the turpentine.

CASE III.

William Mc. Donogh, æt. 28, labourer, has been seven years subject to epilepsy and mental derangement. He is mischievous, quarrelsome, and prone to violence. His fits usually recur once a month, accompanied with such maniacal disorder as to require confinement and the strait waistcoat. He commenced the Terebinthinate mixture (as the other patients)

on the 11th of October; and had the dose reduced, for the same reasons as have been already assigned. His countenance and manners visibly improved; and his bowels, which were torpid and irregular, became duly solvent. He had no fit until the 10th of December, when he suffered two paroxysms in quick succession, but without any unusual derangement or excitation of mind. On the 19th he had another severe fit, from which he recovered as before. On the 10th of January he had a slight attack, but none afterwards, whilst he continued the use of the medicine (Feb. 12.)

CASE IV.

George M'Kiernan, æt. 20, labourer, has been eight years subject to epilepsy, with maniacal exacerbations, and in the intervals, idiotic stupor. His fits recur three or four times in the week, and often three times in one day; requiring his confinement in a cell, the floor of which is bedded with straw. He is the worst example of epilepsy in the hospital. Having commenced the turpentine mixture (afterwards reduced) as the other patients, he had no fit until the 4th of November, when he had three successively in the evening, but unattended with maniacal exacerbation as formerly. Three similar fits occurred on the 9th. On the 21st he shewed some symptoms of mental excitement, which subsided on the following day. Having engaged in a quarrel on the 2d of December, he fell into one of his usual fits; but recovered from it without further disorder.

On the 9th, 13th and 19th, he had slight epileptic attacks; but on the whole was making rapid strides of amendment until the 10th of January, when he was reported to have had several fits in succession, attended with some maniacal excitement. He continued to take the medicine until the middle of February; but my notes are deficient in observations of this latter period. On the whole, however, the efficacy of the remedy was not less remarkable in this than in any of the foregoing cases.

CASE V.

Thomas Conolly, æt. 30, painter; has been seven years subject to epilepsy, with irregular maniacal invasions. The fits now recur twice or thrice every day, or in the course of the night. On the 11th of October he commenced the use of the turpentine mixture, in the doses before specified. On the 24th it was reported that he had not on any day suffered more than one paroxysm, and had passed several days without a fit. From this period till the 5th of November he was free from any attack, excepting such as he might have had in bed, without the knowledge of his nurse. He had now occasionally slight spasms, which arrested him for a few seconds as he walked about; but had no regular fit until the 18th of December, when he suffered an unusually severe one; neither preceded, however, nor followed by maniacal excitement, as formerly. On the 22d and on the 26th, he had again severe fits, with some mental disturbance, yet not such as to require

confinement. By encreasing the dose of his medicine, his mind and spirits became more tranquillized and cheerful; but his fits recurred at intervals of three, five, or eight days, until the remedy was laid aside, after a trial of four months.

CASE VI.

William Lalor, æt. 30, labourer, having been discharged as an incurable lunatic from the Richmond Asylum, was received into the Hardwicke Hospital on the 12th of September, 1816. He has been subject to severe fits of epilepsy, which occur twice a week in the day time, and more frequently in the night. Having begun the turpentine mixture on the 11th of October, his fits became slighter, but not less frequent during the first month. From the 12th of November, however, until the 23d, there was an entire suspension of them, when they began to recur mildly, at night; but until the 19th of December he had no fit in the day time. He had then four attacks on four successive days, but in one instance only was maniacally excited. On the 27th he had another severe fit; and in the month of January they occurred in the night time, apparently as often as formerly, but much more slightly, and scarcely once a week, in the day time. He was moreover very rarely in a state to require coercion, as formerly.

CASE VII.

Hugh Kelly, æt. 30, cooper, was sent from Cavan jail to the House of Industry, and from thence to the Hardwicke Asylum. There is no report of the time and manner of his becoming insane and epileptic, and he is too stupid and incoherent to give any account of himself. On the 19th of September he had a series of fits through six successive days, attended with such maniacal derangement as to require strict seclusion. On the 11th of October he commenced the use of the turpentine draught, while under another exacerbation of the same kind. Being freely purged by the medicine, he became more tranquil. In a few days his epileptic symptoms disappeared, and he recovered favourably. Until the 15th of November he had no recurrence of the disorder; but on that day he had one severe fit, without mental excitement. On the 18th he had another single fit, with some disturbance of his mind, so as to require confinement. The same happened on the 27th. From this period, however, he made great progress in the general improvement of his health and mental tranquillity; and up to the 10th of January, (when the report of his case closed) he had no recurrence of epilepsy or maniacal disorder.

The salutary effects of the rectified oil of Turpentine, in the foregoing cases of epilepsy combined with

mania, suggest the propriety of making trial of other Essentail oils, for the relief of this complicated malady. The subjects of the foregoing Cases were in so confirmed, and to say the truth, so hopeless a condition of disease, that I am surprized only at the amount of benefit actually derived for this remedy. For besides the striking alleviation of their epileptic disorder, and its *maniacal* adjuncts, all of them gained considerable improvement to their general health, appetite and cheerfulness.

The Reports of the females are in no respect less favourable than those of the males. They are in fact so similar in every important feature, as to render it unnecessary to detail them. Two circumstances only deserve remark, as peculiarities attending the latter cases: the one is, that the women bore larger doses of turpentine without experiencing catharsis; the other is, that in most instances it proved soporific to them, which was not observed in a single case among the men.

With several of the female epileptic patients I made trial of *Digitalis* in various doses. In *two* instances I administered a decoction of two ounces of the fresh leaves in a pint of water, which was divided into three draughts, and given at intervals of two hours. In *one* case, two drachms of the dried leaves, in decoction, were substituted for the fresh plant. Each of these exhibitions was followed by severe vomiting and purging, but without any subsequent benefit. In *two* other cases I directed two drachms

of the tincture of digitalis, in divided doses through the day; and in a single instance I administered three drachms. But the results wholly disappointed my hopes; and as this mode of administering digitalis is not unattended with hazard, I have never since had recourse to it.

A more successful method of employing this drug is by commencing with small doses, and encreasing them by daily additions. In this way I have begun with *three* or *five* drops of the tincture, thrice in the day, augmenting the dose by one drop only, on every successive day, until each potion contained thirty or thirty-five drops; at which amount the patients have become so severely and incessantly nauseated, as to render it necessary to discontinue the medicine. I have thus afforded some permanent relief to one patient, and temporary benefit to four others.* But the most favourable cases derived less advantage from the digitalis, than they have since derived from the rectified oil of turpentine.

* These results correspond with the experience of Dr. Currie ("Med. Reports," vol. i. p. 165.) and of Dr. Halloran of Cork. See his "Enquiry," &c.

PART II.

MISCELLANEOUS COMMUNICATIONS

ON

MEDICAL AND SURGICAL DISEASES.

ON THE

DISTORTION

TERMED

VARUS, OR CLUB FEET,

BY A. COLLES, M. D.

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THOUGH the exertions of many eminent practitioners, in rectifying the deformity of club feet, have been crowned with success, in a variety of particular instances, yet the melancholy examples of this distortion that we still daily witness, too clearly prove that a method of treating the disease, at once easy in its application and certain in its results, remains a desideratum in the practice of surgery.

To discover such a mode of treatment, I turned my attention, a few years ago, to the consideration of this disease; and I preferred commencing my experiments on infants one or two months old, rather than on children one or two years of age; in order both to save the child months of unnecessary constraint, and to spare the parents years of unavailing anguish. I first put in practice the most approved plans of treatment recommended by others; such as swathing the limb with straps of adhesive plaster, or with

narrow rollers moistened in a mixture of flour and white of egg. But these expedients disappointed my expectations; for the plaster frequently caused vesications of the skin, and the roller became so loose when it dried, as to allow the foot to return to its distorted position; or, if applied too tightly, caused such painful swellings of the limbs, as to make it necessary to cut off the bandage in a few hours. I next tried splints of different shapes, and moulds of different constructions for the feet. But experience soon led me to a conclusion, which reflection might indeed have suggested to me at first, namely, that the strength of the different kinds of apparatus in general use is infinitely greater than the pliability of the limb at this early age requires. After a variety of fruitless attempts, which it were unnecessary to detail, I contrived at length a light and simple apparatus, which has been attended with such uniform success, that I do not hesitate to recommend it to the attention of the Profession, as one which may be applied to an infant not more than a fortnight old, and which has never yet failed to accomplish the cure of the worst cases, within the space of three months.

The apparatus consists of a shoe made of chamois leather doubled, and having between its two layers a sole of strong tin interposed. The tin is cut to the size of the sole of the foot, having, however, two small projections left, one opposite to the ball of the great toe, and another opposite to the outer ankle. Each of these projections has a longitudinal slit, de-

signed to receive the shouldered end of a splint. The splints are made of tin completely covered with chamois leather, except merely the shouldered end of each, which serves as a kind of tenant to pass down through the mortice-like slit in either projection, and which should be left of such a length as to admit a hole capable of receiving a bit of very narrow tape, or strong bobbin, below the sole of the shoe. The splint for the outer side of the limb is a narrow strip of an uniform breadth and shape; that for the inner side somewhat resembles the leg on which hosiers stretch their stockings. They should each be about an inch broad, and of such length as to reach up to that point where the leg swells out below the inner condyle of the tibia. The upper leather of the shoe is entirely open in front, being cut down through the middle, from the instep to the toe. Along the edges of this cut are four or five corresponding holes, through which the ends of a doubled lace are alternately passed crossways from the toe to the instep; and to protect the foot from being injured by the friction of this lace, a false lining of soft leather is interposed, which is sewed underneath to one of the edges. The point of the shoe is completely open, the upper leather being cut away across the toes, so as to leave them entirely exposed. All the edges of the shoe, from heel to toe, are bound with tape or narrow ribband; and to the heel below the edging are sewed two straps of leather, of such a length as to cross once or twice on the instep. Such is the apparatus. The mode of applying it is as follows: The foot being introduced into the shoe, the assistant

presses the heel of the shoe against the heel of the foot, while the surgeon laces it as tight as is necessary to keep the foot steadily in its position, and then secures the ends of the lace by passing them once or twice round the foot, and tying them on the sole. He next crosses the straps of leather sewed to the heel once or twice on the tarsus, and ties them either on the sole or on the instep. The use of the shoe is to draw closer together the anterior ends of the metatarsal bones, particularly of the great toe, which stands off to a distance from the others, while it serves at the same time gently to press the bones of the tarsus into their proper places. The straps from the heel assist also in pressing these latter bones still farther into their natural position; but the principal use of these straps is to prevent the heel from rising up out of the shoe. When the shoe is adjusted, the splints are then to be applied; and the shouldered end of each being inserted into the longitudinal slit designed to receive it, two pieces of bobbin, each about two inches long, are passed into the two small holes below the sole of the shoe; and their outer ends being knotted, their inner ends are tied together across the sole. The limb is then brought into the natural position, and the splints being adjusted to it, so as to preserve it in that position, are secured in their places by two tapes sewed to the outer splint at convenient distances. The use of the splints is sufficiently obvious. The outer splint having its lower end fastened to the sole of the shoe, must, from the distorted state of the foot, have its upper end very much turned out from the leg. It is evident, there-

fore, that when this splint is pressed in against the leg, it must necessarily force the outer edge of the foot upwards, so as to bring the sole more into its natural position, the splint in this case acting as a lever, and the outer ankle serving as a fulcrum. Again, the inner splint being of one single piece, and being made in the same direction as the perfect limb, it is evident that when the leg and foot of the splint are firmly secured to the leg and foot of the child, the foot must, by the pressure on the ball of the great toe, necessarily be brought into a straight line with the leg; while, at the same time, the shouldered end of the splint must keep down the inner edge of the foot, and prevent it from returning into its original distorted position. In adjusting the apparatus, great care must be taken that the upper ends of the splints do not press against the sides of the leg, so as to rub off the skin, and this will be best accomplished by bending these ends outwardly.

The inner splint has in general a great tendency to slip backwards, and then, in the bended position of the knee, to excoriate the upper part of the leg. This may be guarded against by passing the upper tape of the outer splint in front of the tibia, then round the inner splint, and so back again to the outer side of the leg.

A material difficulty in the management of cases of this nature, is to devise some means of preventing the apparatus from being wetted by the urine

of the infant, which hardens the leather, and produces excoriation of the limb. The plan which I have found the most simple and efficacious, is to fold a napkin lengthwise, and to wrap it spirally round the limb from the toes, so as to reach above the knee. This the nurse should carefully watch, and remove as soon as it receives any moisture. But this covering, besides keeping the apparatus dry, serves another useful purpose, as it prevents the child from cutting one limb with the projecting parts of the apparatus of the other.

The improvement in the shape of the limb is so very rapid, that, at the expiration of a fortnight, a common observer would not discover any deformity; yet so strong is the tendency to relapse, that if the apparatus be now laid aside, for a single day, a remarkable contortion will be found to have taken place, even in that short space of time.

In some instances I have observed, that on laying aside the apparatus, the great toe, after a few weeks, was drawn away from the other; and I have found, on setting the child to stand, that although he laid the sole of the foot and heel flat upon the ground, yet he turned in his toes too much. To remedy this defect it will be adviseable to make the child wear, for one or two months, common shoes made to lace along the dorsum of the foot.

The following brief statement of one case will fully exemplify the mode of treatment:

On the 6th November I applied the apparatus to the child of Mr. ———. The deformity was in both feet, and to as great a degree as generally prevails. The knees, too, appeared so much distorted that the patella of each seemed to be on a line with the outer ankle; yet both feet admitted the employment of the apparatus without producing uneasiness. On the second day the apparatus was removed, merely for the purpose of convincing the parents that the child was not suffering any distress from what seemed to them so severe a state of constraint. Afterwards it was re-adjusted every fourth day.

December 8th. The feet appeared to me so perfectly restored to their natural position, that I began to question whether the cure might not now be considered as complete. The knees, however, still retained their unnatural direction.

December 30th. This day the apparatus was laid aside, with very sanguine hopes that it would not be necessary to have recourse to it again.

January 6th. The apparatus had now been discontinued for seven days; but on examination I feared the disorder was returning; for I observed that the outer edge of the child's feet was much lower than the inner, while the great toe was drawn away from the others. The apparatus was therefore applied again this morning.

January 21st. He wore the apparatus since the

6th inst. and the cure appeared to be now completed, having occupied a period of eleven weeks. Had not the use of the apparatus been suspended for seven days, at the end of eight weeks, possibly the cure might have been completed in nine; but I removed it, because I wished to ascertain whether any tendency to relapse existed.

March 6th. At the expiration of nearly six weeks I found the child stood with the soles of both feet set very evenly on the ground; but the left foot turned inwards a little too much, and the great toe was too much drawn away from the others. A pair of common leather shoes, made to lace in front, was directed to be worn.

May 10th. The patellæ were brought nearly to a natural position. The feet appeared perfect.

Future experiments alone can determine whether I am too sanguine in the hope, that the plan of treatment here recommended will remove the deformity of club feet altogether from the catalogue of human evils. Let it be remembered, however, that to ensure a cure, it should be adopted within the first six months, and should be steadily and perseveringly pursued for a sufficient length of time. I feel the more inclined to urge the necessity of such early and persevering attention, because I have had occasion to lament the ill effects produced among the children of the lower classes of people, from the occasional negligence of their parents, and the temporary disuse of the appa-

ratus, and to witness instances where, from these causes, the cure, though undertaken in proper time, had been unnecessarily protracted for many months.

That this deformity has been repeatedly cured by other and very different plans I make not the smallest doubt; but still I think that the plan here recommended will be found to deserve a preference, when it is considered that it combines the following advantages:

First. The apparatus is so simple, that instead of requiring an ingenious artist to construct it, it can be made by such common tradesmen as may be found in every country town and village.

Secondly. The expense of it is so very trifling as not to require more than a few shillings to procure all that may be necessary for completing the cure of any individual case.

Thirdly. The application of it is attended with very little trouble, the apparatus not requiring to be adjusted oftener than every fourth or sixth day.

And lastly, this plan of treatment effects the most complete cure in a very short time, and without being productive of any pain or uneasiness to the child, restoring the limb to the most perfect shape, and ensuring to it the most free and ample power of motion.

But though the subjects of this malady may be hereafter relieved in the first stage of infancy, yet the present race of unfortunate sufferers, who have outgrown that favourable period, still retain every claim to our care. Anxious to ascertain if the apparatus which succeeded so well in one case, would succeed in the other, I tried one of similar form, but of much greater strength, for the cure of patients from three to twelve years of age. But I am sorry to say that I had by no means the same success with children as I had with infants. In fact this apparatus was much less efficient in cases of long standing, than the apparatus recommended by Professor Scarpa in his essay, entitled, " Sur la torsion congénitale des pieds des enfans, et sur la maniere de corriger cette deformitè."

It is highly probable, that the instrument which Scarpa describes may be found, in many instances, entitled to the encomiums he bestows on it; in many other instances I fear it may disappoint our expectations, as it will be found to require a much greater length of time than he considers necessary, to effect a cure. For I apprehend there are not only different degrees, but different kinds of this deformity: and I am convinced that even the bones themselves, by being long held or exercised in an unnatural position, will become distorted and mishapen, although I am aware that these opinions are contrary to those of Professor Scarpa. For, in the essay alluded to, he remarks, that, " The bones " of the tarsus, are, strictly speaking, not luxated,

" but merely removed in part from their mutual " contact, and turned on their smaller axis. It " might be supposed that the bones of the leg " have been turned in such a manner, that the in- " ternal ankle has been carried forwards and " the external backwards. But with a little atten- " tion we may perceive that this distortion is not " absolute, but relative; arising from the inward " flexure of the foot. In short, that the two ankles " preserve their natural situation nearly, if not en- " tirely, with respect to the astragalus. In adults, " the astragalus is often a little inclined towards the " inner ankle, but in infants who have not begun " to walk, this obliquity of the astragalus is very " small, compared with that of the other bones;" and again, " I repeat it, that even in children " who have attained their fourth year, the astragalus " is less displaced and less distorted than the other " bones of the tarsus. In one word, it appears to " me, that I can prove with certainty, that the es- " sence of this congenital deformity of the foot " consists in the turning of the os naviculare, cu- " boides and calcis on their smaller axis, and that " these draw into their unnatural position the cu- " neiform bones, those of the metatarsus and of the " toes, and that on a close examination of the " whole, the astragalus is less displaced and less " distorted than any of the other bones of the " tarsus."

Such are the inferences which P. Scarpa has

drawn from the dissection of a young subject, whose age he has not specified, but which, from the expression, " tres-jeunes enfans," and from the appearance of the plate, we may presume to have been an infant not many weeks old.

The youngest subject affected with this deformity that I have had an oppottunity of dissecting, was a child about five years of age. The following were the appearances exhibited :

The large callosity on the most convex part of the outer edge of the foot is owing to a bursa or rather to two bursæ mucosœ, one lying on the cuboid bone, the other interposed between this bursa and the skin. These sacs, if not created by, have at least attained their present size, by the friction and pressure which they suffered in walking; for this part of the foot usually rested on the ground. Many of the muscles of the leg having lost their natural red colour, assumed that of fat, but still retained their fibrous texture. This appearance, however (familiar to those who are conversant with dissections) cannot be regarded as peculiar to this deformity. The bellies of both Gastrocnemii were very small, and lay too much on the tibial side of the leg; the tendons of all the muscles of the leg were uncommonly long in proportion to their fleshy parts. The directions of the muscles were influenced by the distorted shape of the limb, in a manner which will readily be conceived by those who are acquainted with their usual course.

In the bones, however, I found the chief seat of the deformity. The inner, compared with the outer ankle, was not only in appearance, but in reality advanced more forward than is natural; for the extreme point of the maleolar process of the tibia was one inch and one sixth of an inch more forward than the corresponding point of the fibula. The head of the astragalus was adapted, as in natural cases, to this very oblique joint. In the remaining part of the astragalus, however, the principal deviation from the natural shape of the foot was discovered. For, in examining the body of this bone we remarked its extraordinary length, which proved to be nearly double the usual standard. We also remarked that this body was not continued in a direct line with the part which is encased between the ankle-bones: for we found this bone as if bended inward, as expressed in the plate at fig. 3. and 4. Plate I. This curve or angle seems a necessary consequence of the oblique direction of the ankle-joint, or rather as if designed to counteract the direction outwards, which the oblique position of the ankle-joint must have given to the body of the astragulus, and consequently to the entire foot. The anterior head of the astragalus also exhibited some very remarkable deviations. Instead of presenting a spherical surface, it was drawn out into an oblong head. A projecting ridge ran from the fibular to the tibial side along the middle of this head, dividing it into two surfaces, an upper and lower. The upper surface is marked in the drawing fig. 5. The capsular li-

gament, which should connect the dorsum of this bone to the os naviculare, was attached to the bone at least three-eighths of an inch behind its anterior point. All the surface included within the capsule was covered with cartilage, and calculated for a moveable articulation, although the os naviculare had never moved on it; this motion, at least could not be effected in the subject before us. The lower surface was nearly flat, and upon it the os naviculare moved. This surface does not appear in the Plate, as the bones would require to be very much forced from their connections in order to shew it. The place and form of this articulation serve to account for the angle which is found in the soles of such distorted feet, instead of the natural arch. The cuboid bone was also very much mishapen. Instead of presenting a flat surface to the dorsum of the foot, we found it very convex; we were struck with the unusual length of the bone, and observed that of this length a considerable portion was included within its tarsal and metatarsal articular membranes. The waving lines marked 8 and 9, shew where these ligaments attached themselves to the bone; from which attachment, to each extremity, the bone was covered with articulating cartilage, although no part of it, in this view of the foot, appears to have had any bone moving upon it. A slight ridge running obliquely from the outer to the inner side of the posterior surface, moves in a corresponding groove on the anterior extremity of

the os calcis. The groove for receiving the tendon of the peroneus longus was scarcely marked on the bone. The outer or fibular side of the os calcis was unusually convex. The space between the extremity of the heel and edge of the posterior articulation with the astragalus, was too short. The outer edge of the bone was drawn too much towards the sole of the foot. Its other articulating surfaces and connections were faultless. The cuneiform bones, especially the two inner, had enjoyed an uncommon share of motion. The bones of the tarsus, except the first, appeared to be slightly curved, near their bases, from without inwards.

I have met with another instance of this deformity in a very slight degree. The subject was at least 18 years of age. In this instance, the oblique position of the ankle joint, and the unnatural shape of the astragalus, were obviously the chief sources of the deformity.

Were all these points of deviation from the natural structure owing to original malformation? Or were they, in any degree, owing to the unnatural position in which the bones of the subject had been held and exercised for some years?

Does it not seem highly probable that this deformity differs in different instances, not only in degree but in kind? Is not this conjecture strengthened by the different degrees of this deformity which we

meet with in living individuals? These, with many other interesting questions, must remain unanswered until we shall have had a greater number of dissections of these deformed limbs, made at different periods of life.

This, however, may now be safely affirmed, that the prospect of effecting a cure in such cases, will be greater in proportion as the subject is younger; and that it can be accomplished with great ease, and in a very short time, when undertaken immediately after birth.

OBSERVATIONS

ON THE

REMITTENT FEVER,

AND ON

THE PLAGUE

WHICH PREVAILED IN THE ISLAND OF CORFÚ
DURING 1815 AND 1816.

BY WILLIAM GOODISON, M. D.
ASSISTANT SURGEON, 75th REGIMENT.

ADVERTISEMENT.

THE following letters, although manifestly not written with a view to publication, appeared to the Editors to contain so much valuable matter, that they obtained the permission of Mr. Crampton, the Surgeon General, to whom they were addressed, to lay them before the profession.

Original observations, illustrative of the nature of pestilential contagion, must always be possessed of considerable interest; but their value is materially enhanced when, as in the present instance, they are made without a view to the support of any peculiar opinions.

Extract of a Letter, dated Corfù, December 26th, 1815.

I have had a good deal to do since my arrival here, a severe fever having prevailed in the regiment during the whole of the hot weather, which I have had to encounter myself, with only the occasional assistance of an hospital mate : it was the bilious remittent, attended in many instances with a deep yellowness of the skin, and in a few severe cases, with great irritability of stomach, and, in my opinion, differing only in degree from the yellow fever.

In most instances I found decided advantage from opening the temporal artery, more than the depletion, merely as such, would seem to afford; where the headach is severe, the eyes brilliant, and the countenance flushed, it cuts the disease short at once. An universal symptom, which the men described as a stunning and dizziness of the head, prevailed, which also derived generally decided advantage from the same remedy. This affection, when amounting to fainting upon sitting or standing up, was, as you may suppose, a very alarming symptom. I opened the bodies of eight out of twelve (I think) that died; the number of cases of fever of all descriptions, during the summer, amounting to between 210 and 220. In all I found the gall bladder distended with bile, the quantity amounting in two cases to two ounces; and in the others, varying from one ounce to $1\frac{1}{2}$ ounces; it was black and

ropy, but made a beautiful yellow when lowered down with water. No gall stones or other obstruction in the biliary ducts. The large intestines were in some places much contracted, in others considerably dilated, and some distended with air. There were always traces of inflammation to a greater or less extent in the brain; in some, water in the ventricles; in some, the vessels of the pia mater were turgid with red blood; in most cases, in three at least, that I recollect, there was an effusion of coagulable lymph directly under the vertex of the skull to the extent of a Spanish dollar. There are no marshes sufficiently near to assign as the source of this complaint, and although we had some bad cases, among such as had been on guard in the neighbourhood of ditches containing stagnating sea water, yet they were not altogether confined to sources where the causes were so evident and ascertainable; in many cases, it must have originated in the heat of the weather (the thermometer standing generally at 84°.) merely or conjointly with a peculiarity of soil. When light rains occurred during the heat, we were sure to have bad cases immediately after. Since the cold weather it has changed gradually into the intermittent form, of which many cases have been very severe and obstinate. Bark, although it has been greatly decried in these countries, from its being found not to come up in infallibility to the expectations of some enthusiasts is yet an excellent medicine in the purely intermittent form, and will cure two thirds of the cases to a certainty, but is never used in the remittents of these countries,

from the certain conviction of its doing harm ; in the latter, bleeding from the temporal artery, purgatives, and the James's powder, were active and useful remedies, when employed with judgment and discrimination. In cases of irritability of stomach, the effervescing mixture and tincture of opium, the latter was particularly useful, joined with the tepid ablution at bed time, when the heat of the skin required it, and the state of the stomach forbade the use of antimonials. I think calomel did mischief by encreasing the action of the liver, and, as I suspect, producing tympanites, for which I could assign no other cause. I fear I have dwelt too long upon this subject, without offering you any thing new or interesting ;—however, since writing the above account, I am sorry to inform you that there are grounds to suspect that the plague has made its appearance in this island, and about fifteen miles from this town. We are all upon the alert, and have formed a cordon of light troops about the villages where it has been discovered, so that, if the fomites have not been already disseminated amongst us, we shall, please God, escape ; and there is every reason to hope that we shall be able to circumscribe this horrible evil, and confine it to the source from which it is believed to have sprung. The first village where it appeared contained about 52 or 53 inhabitants (a colony of Albanians) of whom 30 were taken ill, and four only survived. The town has been burned with every thing in it, and the few remaining inhabitants supplied with every necessary and comfort, but kept under strict quarantine. I do not like to

call it by so horrible a name, but certainly there are stong suspicions that it is the same.

Extract of a Letter dated Leftimo, Island of Corfù, July 2d. 1816.

If the following detail of facts, which came under my own observation, and that of my friends engaged in the same duty, afford you any satisfaction, I shall be content.

I was ordered down here on the 12th of March, and took charge of one half the infected district, called Lower Leftimo, then under Deputy Inspector Tully, who superintended the whole; I had only an opportunity of seeing about twenty cases, as in the scattered population of this district I was obliged to assign a great deal of the medical inspection to a native doctor; our duty was to separate the infected, and have them sent to the Lazaretto, and the suspected to a camp constructed for the purpose, and admirably arranged by General Phillips.

The disease was at its height about the time of my arrival, but soon began to feel the effects of the order established upon this plan; it declined rapidly afterwards, and the last accident occurred upon the 6th of May, ten days having intervened between it and the one which preceded it, free from plague. As to the origin of the disease, the fact is not sa-

tisfactorily ascertained; it existed about twenty days before the government got information, and about thirty persons had died; they were supposed to have died of the stripes and strangulations inflicted by the *spirit* of a man who had been murdered in the village of Marathea, where first it appeared; under this impression the inhabitants collected all the priests of the neighbouring villages to aid in appeasing and laying the angry ghost; a convocation of Papas (as the Greeks call them) was accordingly held; several ridiculous ceremonies used, amongst others the digging up of some of the bodies, putrefying and in their infected cloths, (the custom of the country being to bury them so) and solemn mass was performed amid a crowded congregation. Another act of superstitious infatuation had nearly involved the city in the same calamity, a close narrow-laned dirty town containing about 18,000 inhabitants. They actually sent pieces of the clothing of the infected bodies to be nailed upon the coffin of the tutelar Saint, Spiridion, who among many other miracles, has preserved the city at least, from the contagion. The breaking up of the convocation was followed by the dissemination of the disease through the persons of the Papas in all the surrounding villages, to the number of ten or twelve, the population of which varies from 1 to 7 or 800 each, scattered over a district of about twelve or fourteen miles; after this a cordon was formed against the infected district, which proved effectual in protecting the city, with the aid of St. Spiridion. Deputy Inspector Tully came down with an hospital assistant,

and attacked the enemy at his first point, Marathea, but they soon found that he was too many for them, having had the start of them long before.

Poor —— the hospital assistant, fell an early victim to his own inexperience. Only nine of the people of Marathea, remain out of 45, its original number; and it continued to break out in the other villages from time to time, till at last the number of deaths amounted to eleven of a day, no inconsiderable mortality for the small population. The gross amount of deaths, as well as could be collected, was stated, in the Gazette of the 11th May, at 414, and about 60 counted convalescent; but I have reason to believe that only one recovered out of every fifteen attacked with real plague.

The character of the disease, when I saw it, was marked by the following symptoms, set down in their order of succession: previous costiveness and whiteness of the tongue; nausea; a dirty sallow complexion; slight irregular rigors, sometimes, but rarely amounting to severe shiverings; vomiting, with uncommon anxiety and irritability of stomach; tongue permanently white, and loaded with white curdy matter at the root, generally a triangular patch in the middle, of a florid colour, the base of the triangle at the apex of the tongue, and two white stripes occupying the remainder of the upper surface; the edges remarkably red; the countenance sallow, indicating fear and anxiety, with a horrible expression of despair, particularly when the patient was aware of his awful situation; staggering came on the first evening, if the patient was attacked in the

morning, and formed a decided feature of the disease upon the morning of the second day. This symptom, or total inability to keep the legs, was quite sufficient for the diagnosis, although the rest were wanting. This staggering is not like the effects of weaknes in remittent or other fevers, where the patient falls doubled up like a sack ; in plague he is capable of making an effort with his limbs to keep himself erect ;—nor do I think in plague it is so often attended with syncope ; in fact it is the staggering of a drunken man ; and many were reported to be drunk, who were actually plagued. When brought to the full light at the door, he probably collects sufficient strength to strip himself, aided by one or two of the family ; he sinks under the exertion, the light too overpowers him, he rolls his glistening eyes and staggers off. Generally the bubo or carbuncle has been now discovered, or the purple petechiæ, that evening (the second day), and he dies the following morning, or before the next night. This was the usual progress. I am unacquainted wholly with the particular appearances after the second day, from personal observation, as our duty in the villages was to send the infected off to the Lazaretto instantly. They sometimes died delirious, sometimes comatose ; at the commencement, a frantic delirium generally terminated their life and their miseries together, the bubo being attended with a dreadful succession of convulsive paroxysms : The buboes were sometimes large, and sometimes numerous. Upon one old woman I saw five, livid at the top and fiery at the base ; the carbuncle

was of the same character, and attended with rapid sloughing, or rather mortification. I have seen the petechiæ just as if you had taken a pen full of ink, and filliped it against the body, so black and well defined were they. So far the diagnosis of the disease is easy, but the symptoms are not always thus clearly marked. I have seen two medical men, and a third, a man of great experience, though not a professional man, pronounce upon one of the last cases, that it was not plague. The following morning the man, who was an expurgator, had a bubo, and died upon the third day. He had been employed in the most dangerous offices from the beginning with impunity, in carrying the infected and burying the dead.

The anomalies were frequent and various. A man came to a friend of mine to have his tooth drawn, with toothach and swelled face. The swelling was a parotid, and he died the third day. In another the first symptom was pain in the occiput; the disease, too, frequently set in with pains resembling rheumatism. One of the most extraordinary facts was the existence of bubo, although the constitution was but little disturbed: of two men who were so little indisposed as to converse with me long and freely, upon the cause of their complaint, and calmly to point out the persons with whom they had had any communication; one had at the time an axillary, and the other an inguinal bubo: both were dead in forty-eight hours. Many similar cases occurred to other medical officers. Poor —— was, I am

told, first attacked suddenly with pain in his groin, after resisting the contagion for a long time.

These facts appear to me to argue strongly against the opinion, which savours so much of the humoral pathology, that bubo is an attempt at a salutary and critical discharge. That nature should take up the alarm so very quickly, (as it is expressed) before she feels the effects of the original impressions, is making her provident indeed, and to very little purpose, as the worst symptoms usually follow the complete formation of the bubo; it is in effect making her a perfect suicide, which our visionary theorists never stick at.

Another extraordinary fact was the almost total suspension of all other acute diseases during the period, in a country where every change of season brings a train of diseases more or less fatal. Tully, who knew what was passing in the whole district, observed the same circumstance; and it is singular, that the only exception to this, was three cases of gout occurring in Lower Leftimo, and two of the same at the camp, and this notwithstanding the hardship and privations to which all were exposed, being mostly under canvass at a season of such continued rain between the equinoxes, that the occurrence of two successive fair days might be deemed a phenomenon, yet in the city and beyond the cordon, inflammatory diseases occurred in the usual proportion.

With respect to the contagion, the following facts may not be uninteresting. A woman was taken ill within a month of her time; she was delivered in two days, after which she only survived three. She had no symptoms or mark of plague upon her body; however I judged it prudent to send the family, consisting of six persons, including the infant, to the camp, to be placed in observation; after six days a thrifty old lady of the family, having got herself settled, took a handful of cotton to spin; she had no sooner set to, than she was taken ill with vomiting; a young man was also infected before night, and the whole six were exterminated in a week, with five other persons in an adjoining building, who had had communication with them. I traced the contagion in two instances to pack-saddles which were infected. In one of these cases the father, who used the saddle, escaped; but his son, a boy about nine years of age, caught the infection, and died in three days. The mother, who carried the boy to the camp in her arms, a distance of six miles, left her house in perfect health, was attacked the following day, and died in thirty hours with petechiæ, carbuncle, and bubo. I think we are but ill acquainted with the limits of the operation of contagion and the laws of susceptibility. Most extraordinary and unaccountable instances occurred, where the greatest caution, excited by the greatest terror, could not shield the unfortunate victims of this horrible disease; of course the infection was conveyed, in all these instances, by contact, which, in the ever multiplying sources of danger, unexpectedly took place; yet of 300 Alba-

nese soldiers, employed in guarding the infected, following the track of contagion hourly, patrolling the streets at night, and, above all, guarding the expurgators in their various offices, we lost but two, a captain and his servant. Yet they could not take any precaution about their shoes and clothes. In many families in this quarter the mortality was deplorable, fifteen dying out of sixteen infected, at the lowest calculation: this was, however, owing in some measure to the remoteness of the Lazaretto, which was six miles off. With respect to the introduction of the disease, I am firmly persuaded that it was imported, although I know many believe it to be indigenous, and they have some strong reasons to support this opinion. First, they say we cannot trace out the fact of its introduction, notwithstanding the offer of a large reward. Secondly, that the district has been always remarkably unhealthy, and twice had medical officers been sent down two successive autumns, to ascertain the nature of a suspicious epidemic. Thirdly, the character of the disease varying so much; at first it appeared in the form of cynanche maligna, nor did parotids appear until some time after this period, and buboes much later, accompanied by convulsions and sudden deaths. The period of the disease also varied; at first it extended to five and seven days, latterly three days was the mean duration. Most of the patients I saw died in forty-eight hours, and there is reason to believe that some were cut off in twelve hours.

In answer to all these: First, the whole nearly of the village of Marathea, where it broke out, was destroyed, certainly all that could know any thing about it. Secondly, the exemption of all the other parts of the island outside the cordon, (although subject to all the circumstances assumed as the cause of the disease at Marathea, viz. bad air, the consequent generation of a contagious distemper, aggravated by poverty and every sort of privation). Add to this, that although the district had been always unhealthy, no disease, known there before, approximated to this in its proportion of mortality (*ab initio*) to convalescence. The ratio was nearly inverted, one death occurring in sixteen cases of the severest remittents, during a summer; whereas fifteen died of plague, for every one that recovered. Thirdly, I believe it always happens that plague makes its appearance in an ambiguous form, and shifts and changes about like a Proteus.

I know not what apology to make for this long string of facts and opinions, all jumbled together, but that if I had had more leisure I should have been more attentive to order. I was determined, however, to dispatch them even so, and just set them down as they occurred in my note-book.

AN

ACCOUNT

OF THE

REMOVAL OF A TUMOR,

WHICH WAS SITUATED BENEATH THE ANGLE OF THE

JAW.

BY J. W. CUSACK, M. D.

SURGEON TO STEEVENS' HOSPITAL AND TO ST. PATRICK'S LUNATIC ASYLUM.

THE following case, which was calculated to excite considerable difference of opinion, is perhaps worthy of publication, as it may lead surgeons to discriminate more accurately between what is impracticable, and what is merely difficult in execution, or dangerous in its consequences. It is observable, however, with respect to the operation here described, that it was facilitated by a disposition of parts, which, to say the least, was unexpected. The ligature of the external carotid artery afforded every advantage which could have arisen from tying the common trunk, while the safety of the patient was not compromised in an equal degree.

James Marks, æt. 36, was admitted into Steevens' Hospital on the 8th of April, 1817, and gave the following account of his complaint: In June 1815, a barber directed his attention to a small tumor, about the size of a hazel nut, situated beneath the angle of the lower jaw, on the left side, which was moveable, and not attended with any inconvenience or pain on pressure. The tumor continued to encrease slowly till January last, at which time it had acquired the bulk of a hen's egg, but was still moveable. From this period it grew so rapidly, and produced so much inconvenience, that he was compelled to apply at the hospital for relief.

On examination, the tumor was found to extend from the lobe of the ear to the lower border of the thyroid cartilage, and from beneath the sterno-mastoid muscle (which it had protruded considerably outwards) to a short distance beyond the middle line of the throat, between the os hyoides and chin. The tumor was irregular and lobulated, and on pressure felt firm and cartilaginous. The larynx was pushed to the opposite side, and was followed in its motions by the tumor. When handled it seemed possessed of little sensibility, except at the lowest point, where the slightest pressure caused acute pain. A finger introduced into the mouth was separated from the tumor only by the lining membrane, to which, however, it did not appear adherent. It projected so far into the cavity as to impede the motions of the tongue, occupying all that space which is intercepted between the posterior molares

and frænum, and extending beyond the frænum to the opposite side. The patient's voice was inarticulate, his respiration laborious, and deglutition even of the smallest quantity of solid food, difficult and painful. He swallowed fluids with ease, except ardent spirit, which he had previously been in the habit of using freely, and which, when he attempted to drink, excited so much pain and spasm, that he was obliged to reject it from his mouth instantly.

The propriety of attempting an operation was a matter of considerable doubt. Although there was no obstacle to the tying of the carotid artery, yet from the size of the tumor, and the depth to which it had penetrated, great apprehensions were entertained as to the possibility of separating it with safety from the pharynx. It appeared intimately united to the upper part of the larynx; but except at this point, it did not seem to have formed any close attachments to the surrounding parts, being moveable with as much facility as could be expected from its size and situation. Encouraged by this latter circumstance, urged by the entreaties of the patient, and fully convinced that the rapid progress of the complaint must otherwise terminate his existence, the other surgeons of the hospital considered me justified in attempting the operation.

Friday, 25th April. The patient being laid on a table, his head and shoulders slightly elevated, and his face turned to the right side, an incision was

made from the lobe of the left ear, along the natural course of the sterno-mastoid muscle, extending to the cricoid cartilage, and dividing the skin, platysma myoides, and superficial fascia. A second incision was made from the centre of the former, parallel to the base of the jaw, and terminating opposite to its symphisis. Dissecting back the flaps, I exposed the anterior surface of the tumor, invested with condensed cellular membrane, and proceeded to detach it, but experienced much difficulty in the attempt, from the great distress in respiration, which was occasioned by the slightest movement of the tumor. Continuing the dissection outwards, beneath the anterior edge of the sterno-mastoid muscle, and opposite to the os hyoides, a large artery was discerned lying on the outer edge of the tumor. This artery proved to be the external carotid pushed from its natural situation. I secured it, (by a single ligature,) which rendered the subsequent part of the operation less embarrassing, by preventing any farther hæmorrhage from the smaller vessels.

Having laid bare all the anterior surface of the tumor, and succeeded in detaching the posterior connections of that portion which was covered by the sterno-mastoid muscle, I next attempted to draw it out, that I might separate its attachments on the laryngeal side. This I found to be impracticable, from the difficulty of respiration produced by every attempt to move the tumor. The magnitude and figure also of that portion which was first exposed, so completely concealed the deeper parts, as to pre-

clude me from following them farther with safety. In this dilemma it was proposed to cut away as much of the tumor as had been denuded, and I accordingly removed nearly one half of its entire substance.

The situation of the remaining part now became more apparent. On the laryngeal side, the cornu of the os hyoides was intimately connected with it; a portion reached above the jaw, behind the digastric and stylo-hyoid muscles, by which the submaxillary gland was pushed forward on the margin of the lower jaw. The digastric and stylo-hyoid muscles, passing in front of the tumor, were so directly in the way, that it was found necessary to cut them across, to get at that portion which extended into the mouth. Having detached this with the handle of the knife, and drawn it downward with the hook, I cut it away. A third section reduced the tumor to the size of an egg. In this remaining portion, the cornu of the os hyoides was buried, and any attempt to move it caused great pain and difficulty of breathing. While we were considering how we might remove it, an assistant, insinuating his finger behind to ascertain its connexions, brought it away by a sudden effort, and a quarter of an inch of the cornu along with it. An equal portion of the bone, which was softened and rough, was removed with a pair of scissars. On examining the cavity in which the tumor had been situated, we found that the external carotid had been tied immediately beyond where it had given off its branch to the thyroid gland; except the digastric and stylo-hyoid muscles we could not discover that

any other important part had been divided; the membrane connecting the os hyoides to the thyroid cartilage, which appeared most in danger, escaped unhurt.

The integuments were now brought together, and retained in contact by two points of suture; the wound was simply dressed, and the patient placed in bed.

Saturday 26th. He passed a restless night, being disturbed by the copious secretion of viscid saliva, and harassed by a short cough. He suffered little pain in the fauces, and swallowed liquids without distress. *Mist: Mucilag. cum Tinct: opii Camph:*

27th. Cough and secretion of saliva less troublesome; slept four hours; breathing and pulse natural; bowels confined. *Haust: purg:*

22th. Wound dressed; some slight excoriation at its lower extremity; discharge profuse, but healthy.

30th. A severe fit of coughing, which lasted nearly two hours, disturbed his rest last night. He appeared this morning free from any irritation. The wound discharged copiously.

May 1st. The cough had entirely ceased; his voice was daily becoming more distinct; he could now use any soft food without pain.

May 6th. Since the last report, he has gone on

favourably. To day the ligature of the carotid came away on the dressings.

After this, the wound healed without interruption and he was discharged on the 20th of May.

Previous to the operation, our patient's speech was very inarticulate; before he left the hospital, he spoke with tolerable distinctness. The left side of his tongue was shortened and wasted, and when thrust out was flaccid; in masticating his food, he was unable to turn it from that side of his mouth, or to direct the point of his tongue downwards, to raise any morsel that was lodged under it. The muscular power of the right side remained unimpaired. The sense of taste continued perfect on both sides: diluted acid, or any sapid substance, excited the same sensation on each. His voice was hoarse, but we had no means of judging how far it differed from its natural tone.

Before concluding I think it right mention, that in the consultation which was held on this case, we had determined to tie the common carotid, feeling assured that the tumor was too intimately connected with the branches given off in its vicinity, to admit of removal, without their being divided. We, however, thought it proper to aim at accomplishing our object without taking up so important a vessel. During the operation we discovered the ex-

ternal carotid displaced, and so situated on the outer side of the tumor, that we were obliged to secure it before we could proceed; this gave every facility which tying the common trunk could have afforded, and was certainly of the greatest advantage to the patient. We thus availed ourselves of the accidental occurrence of the tumor having insinuated itself between the external and internal carotids, pushing the former outwards and backwards. A similar arrangement cannot be expected to occur in every case, but we should be aware of such a contingency, as we might otherwise be inclined, in the first instance, to apply a ligature to the common trunk.

ACCOUNT

OF AN

EPIDEMIC PETECHIAL FEBRICULA.

By EDW. PERCIVAL, M. B. Cantab. & Dub.

M. R. I A. ONE OF THE SENIOR PHYSICIANS TO THE HOSPITALS OF THE HOUSE OF INDUSTRY, &c. &c. &c.

THE appearance of *petechiæ* in febrile diseases, either of the exanthematous or typhous kind, has usually been deemed a symptom of danger, even by those who have rejected the popular doctrines of putrescence or malignity. Its common occurrence in the worst description of epidemic fevers, gives countenance to this apprehension. Yet experience has convinced me, both in hospital and private practice, that it is too generally exaggerated, and that a distinction, which I believe has not hitherto been noticed, respecting the appearance of petechiæ, may afford some guidance in determining the ordinary prognosis of that febrile symptom. When minute purple stigmata, or the florid marbled efflorescence (without elevation of the cuticle) appear in young subjects, before the fourth or fifth day

of fever, they are almost uniformly banished in two or three days by cool air, cold ablution, and purgative discipline; and so far as I have observed, they import no peculiar danger or complexity of disease. On the other hand, when these eruptions appear, for the first time, at a mature stage, or about the crisis of fever, after due evacuants have been employed, and while the temperature of the body but little exceeds the healthy standard, such petechial symptoms indicate danger. In general it happens, that petechiæ make their appearance much sooner in children than in adults; they are likewise more quickly banished from the former than from the latter; and amongst several hundred children, whom I have attended in petechial fever, I do not recollect a single instance of vibices, of the large purple blotch, or of superficial gangrene.

In the month of December, 1814, an epidemic Febricula prevailed in the neighbourhood of Delgany, in the county of Wicklow. It commenced at a female school, which is situated on a healthy spot, at the side of a hill. The utmost attention has always been paid to the cleanliness and ventilation of the house, to the clothing, diet, and general habits of the children. I can affirm, from my own knowledge, that no petechial fever, or other serious epidemic, had occurred amongst them during five years preceding; and their intercourse with the neighbourhood was at all times extremely limited.

The first symptoms of the epidemic to which I

refer, were so extremely slight as to attract little attention. Two of the children were observed suddenly to lose their appetites, to be chilly in the evening, and rather more thirsty than usual. Yet they had no distinct rigors, nor sickness of the stomach, nor pains of the head or limbs. Other children became affected in a similar manner; and in the course of eight or ten days the whole school was implicated in the disorder. Most of the patients complained of lassitude, yet three only confined themselves to bed for two or three days. The rest, sixteen in number, followed their usual avocations; so that no alarm was excited, until it was discovered, by accident, in one instance, and afterwards by examination of the rest, that each had a copious eruption of minute dark coloured petechiæ, both on the trunk and limbs.

Two of the patients, one a child only five years old, the other an adult female domestic, were sent to me, in Dublin, as specimens of the disease. The woman was then in the fourth day of her febricula. The chilliness, of which she had at first complained, had entirely subsided. Her tongue was thinly coated with mucus, her eyes were somewhat dull and watery, her pulse about 86, and perfectly tranquil. She had no giddiness of the head, pain or cough, and complained only of languor, thirst, and impaired appetite. She had numerous small petechiæ, perfectly distinct, of a dun colour, which she informed me appeared on the second day of her indisposition. The stigmata which I saw, were

scattered on the neck, shoulders and fore arm; and she told me there were similar spots on her loins and lower limbs.—The child had contracted the same disorder about the same time. The petechiæ on her trunk and limbs were numerous, but more faded in their hue, than in the other case. She was lively, and occupied in her sports nearly as usual. Yet her countenance obviously betrayed indisposition, her appetite was impaired, and her bowels costive.

In each case, I directed only gentle purgatives, to be repeated when occasion required; and the children who remained at the school were treated in a similar manner. Had I been on the spot to watch the first access of the febrile symptoms, I should undoubtedly have tried the efficacy of emetics or cold affusion, in cutting short the disease *in limine*. But the first stage being passed, no further occasion appeared for active interference.

The duration of the Febricula did not, I believe, exceed nine days in any instance, and the petechial eruption lasted about five days. No sequel of cutaneous or intestinal ailment followed. Some scattered cases of the disorder occurred in the neighbourhood of the school and the village of Delgany; but not a single case, (so far as I have been able to learn) degenerated into typhous fever.

I am quite unable to conjecture the origin, or assign any probable cause of this remarkable Fe-

bricula.* It may be worthy of notice, that in the preceding winter (1813) a very slight morbillous epidemic appeared in Dublin, attended with the characteristic eruptions, but paler and more scanty than usual, with little fever or coryza. Its progress through two female schools fell within my own observation; and of the patients whom I attended, *four* experienced a second attack of the disorder, in a much severer form, within the space of three months. I at first doubted the accuracy of my previous observation; but facts of a similar kind occurring to other practitioners in the city, at the same time, I was confirmed in the opinion that my patients had twice undergone the measles in the course of one winter.†

* Some petechial epidemics of a similar kind are cited by Burserius, in the tenth chapter of his Institutes; and anomalous cases have been recorded by British writers.

The slightness of this Petechial Fever is very remarkably contrasted with the "singular and fatal disease occurring in persons of the same hamlet," described by Mr. Gervis, in the xxth article of the 2d vol. of the "Medico Chirurgical Transactions." It may rather be compared with the Exanthematous Febricula described by Dr. Maton in the fifth vol. of the "Transactions of the College of Physicians." Art. xi.

† This fact, of the recurrence of measles, as of other exanthematous fevers, which are usually sustained but once in the life of an individual, is not without examples on record. Dr. Baillie has related several cases of this kind in the xixth and xxth articles of the third volume of "Transactions of a Society for promoting the Improvement of Medical and Chirurgical Knowledge." It is remarkable that in the examples there recorded, as in the instances to which I have alluded, the *second* attack of measles followed the *first*, in a few months. Dr. Baillie's cases were attended with more fever and eruption, than those which I

But the petechial appearances in the fever before described, bore no resemblance to the morbillous eruption. Neither roughnesss nor elevation of the cuticle were observed, nor even the marbled efflorescence, which often occurs in typhoid fevers. The spots were in fact precisely such stigmata as appear in the fevers commonly termed putrid or malignant, without any collateral symptom of inflammation, putrescence, or malignity.

How far these facts will serve to throw light on the proximate cause of petechiæ, I do not venture to determine. The disease termed "hæmorrhœa petechialis" ought to furnish further illustration of the same subject. The common theory of inflammation appears to me as little calculated to explain these diversified phenomena, as the obscure doctrine of putridity. Were I to indulge any conjectures on the subject, they would be founded on the disturbed balance of the venous and arterious systems—laxity of the subcutaneous capillary veins, and defective absorbent power of the capillary arteries.

witnessed in Dublin; yet the febrile characteristics were sufficiently marked in the latter instances, to render them analogous to the former, rather than to the morbillous affection of the skin only, mentioned by Dr. Willan, in his Reports on the Diseases of London, p. 207, and in his Work "On Cutaneous Diseases," p. 235.

SOME BRIEF NOTICES

OF THE

DELETERIOUS AND THE MEDICINAL EFFECTS

OF

GREEN TEA.

BY EDWARD PERCIVAL, M. B. CANTAB. & DUB.

M. R. I. A. ONE OF THE SENIOR PHYSICIANS TO THE HOSPITALS OF THE HOUSE OF INDUSTRY, &c. &c. &c.

THE familiar use of infusion of Tea, as an article of diet, has rather withdrawn than attracted scientific enquiry to the peculiar effects induced, by its use or abuse, in the animal œconomy. Its intrinsic properties are little ascertained; its deleterious effects are regarded with prejudice or indifference; and its medicinal virtues are almost wholly overlooked.

A Case illustrating the mode in which green tea, when taken in excess, may operate as a poison, occurred to me about twelve years ago; and as I am not aware that any similar example of the morbid affections excited by this plant, has hitherto been recorded, I shall briefly relate the facts as they occurred.

A gentleman intending to walk some distance along the coast of Devonshire, set out in the morning of a hot summer's day, having previously breakfasted on strong green tea, a beverage to which he was not unaccustomed. Having walked twelve miles, he refreshed himself with a repetition of the same meal. Resuming his journey, he walked nine miles further, without hurry or fatigue. The heat of the day indisposed him to dine, as usual, on animal food; and he therefore called a third time for green tea, and drank copiously of a strong infusion, eating at the same time only bread or biscuit. He retired early to bed, resolving to use a similar diet on the following day.

Soon after he lay down, he began to feel some unusual and distressing sensations about the præcordia, as if he were continually on the verge of fainting. But being much disposed to sleep, these sensations were for a while disregarded, and he passed two hours in a kind of troubled slumber, waking at short intervals. His respiration became irregular and oppressed; and his heart sometimes palpitated, and at other times seemed motionless. At length he awoke suddenly and entirely, as from a struggle of incubus. He now experienced acute pain, as from spasm in the region of his heart; and in spite of all his efforts he felt as if he were continually falling into deliquium. His pulse was feeble, irregular, and intermiting, in an extraordinary degree; and slight fits of apparent asphyxia recurred every five or six minutes. He had with difficulty roused his servant at the inn

where he lay, and procured (from an invalid companion of his journey) two opium pills, consisting of one grain each, and a small quantity of cold brandy and water. Deriving some temporary relief from these remedies, he again composed himself to sleep; but after an hour's slumber, almost as distressing as that which he had before endured, he awoke in great agitation, gasping for breath, and bedewed with a chilly moisture. Another pill of opium was procured, and a glass of hot brandy and water, of greater strength than the former. From these he soon derived the wished-for relief; and at length fell into a sound and natural sleep, from which he awoke at his usual hour in the morning, in perfect health. It deserves remark, that although perfectly unaccustomed to the use of opium or brandy, in any degree of dilution, yet he experienced neither thirst, headach, nor any other uneasy symptom from the remedies he had used in the preceding night. The bane and the antidote seemed mutually to cancel each other's noxious qualities. This gentleman has frequently used green tea, even strongly infused, since this occurrence, though never in the excess above described; and as he derives refreshment only, without inconvenience from the beverage, it is reasonable to conclude that no peculiarity nor idiosyncracy in his constitution, occasioned the symptoms above detailed.

A case analogous to this has been obligingly furnished me by Dr. Harvey, whose communication I beg leave to subjoin. "Upwards of thirty years ago

Dr. ——— called upon me in the middle of the day, in the summer season. I happened to answer the door myself, as all my domestics were out, looking at some public spectacle. He appeared to me to be actuated by great terror; and upon my asking him what was the matter, he said, 'I have called upon you to request you would let me in, and allow me to die in your house.' When he sat down I examined his pulse, which was scarcely discernible, and extremely irregular. He said he had called at the house of Dr. Hutcheson, and afterwards at Dr. Purcell's, but finding neither at home, he came to mine, where he entreated I would allow him to expire, which event he was sure was inevitable. I cannot say, at this distance of time, what the circumstance was which made me ask him if he had been drinking stong green tea. He immediately replied, that he had drank a great deal of strong green tea during the whole of the preceding night, as he sat up with an uncle of his who was to set off extremely early in a stage coach. I gave him a large glass full of cherry brandy, and put him to bed. He slept for a couple of hours, and awoke quite relieved from all his disagreeable feelings.

"I intended to have sent to the next apothecary's for a draught of æther and laudanum, believing that tea, coffee, and opium have antagonist powers. But from the circumstances already mentioned, of there being no person in the house, I waited to see

the effects of the ardent spirit which had been administered."

From these cases an obvious inference will be formed, that green tea possesses a specific property of controlling and abating the motions of the heart and arteries; a fact which is confirmed by ample evidence in less extreme cases. It is immaterial whether this quality be expressed by the term sedative, narcotic, or any other technical phrase. The uses to which it may be applied are indicated by the facts here stated. Yet it is remarkable, that this powerful plant has been rarely, if at all employed medicinally; and what renders this neglect the more extraordinary, is, that other vegetable products possessing a similar quality, are peculiarly offensive to the stomach, whilst this is highly grateful and reviving.

The late Dr. Darwin used to recommend cold tea as a grateful drink for patients in febrile disorders, deeming the cream and the sugar that were blended with it, a suitable nutriment. That cold or warm tea, according to circumstances, may be given plentifully, and with much benefit in fevers, I can fully attest.

The restlessness and hurried circulation which attend suppurative fevers, especially pulmonary consumption, are greatly alleviated by the use of green tea. Where the stomach is irritable the infusion, if made too strong, may prove emetic; but, as much

thirst attends these fevers, and the quantity of fluid daily consumed is often considerable, the tea may be administered in the degree of dilution which is found to be most palatable.

In the quality of controlling the action of the heart and arteries, green tea nearly resembles *digitalis ;* in allaying nervous irritability, it may be compared with *hyoscyamus*, *cicuta* and *opium*. Practitioners who rely on the curative efficacy of these drugs, especially the first mentioned, in Phthisis and other inflammatory diseases, will find much auxiliary benefit in the remedy here recommended. The refreshment derived from tea is most advantageously contrasted with the nausea, and restlessness so frequently excited by *digitalis*, and even by *opium ;* whereby the design of the physician to administer repose is so unhappily frustrated. Nor are these considerations, however minute, by any means of trifling moment.

The diuretic qualities of green tea promote considerably its beneficial uses in febrile diseases. Where the patient's thirst is considerable, and the vascular system highly excited, it is desirable to obviate its repletion, by using a fluid which shall find a ready passage throw the excretories ; and for this purpose, no diet drink appears better adapted than the infusion here recommended.

In hydropic diseases, I can speak with some confidence of the auxiliary use of green tea, when taken

liberally, yet not so far as to become unpalatable. If the spirit of juniper be added to the infusion, its diuretic properties are much encreased. This fact is not unknown to drunkards, who indulge themselves in green tea punch, to obviate plethora from their copious potations.

In hæmorrhagic disorders I have not made trial of green tea, but should conjecture favourably of its use, from the benefit commonly derived from drugs of the narcotic class in such cases.

It deserves remark, that tea, and especially green tea, very commonly restores regularity to a pulse which habitually or frequently beats with irregularity. This I have observed in many instances of persons, both in health and disease. It is true that the reverse of this is sometimes, though I believe rarely, observed. But the drift of my remark is, to obviate an objection that might arise to the use of green tea in cases of hydrothorax, or organic læsion of the heart and pericardium; in which cases this beverage may be safely and advantageously, though doubtless cautiously, used.

The efficacy of opium and brandy in counteracting the mischief occasioned by the excessive use of green tea, as mentioned in the first case, suggested to me the expedient of employing that infusion as a remedy for an overdose of opium. It is well known, that when the dose has not been immoderate, coffee affords very speedy relief. But

in cases of persons accidentally or designedly poisoned by opium, coffee has failed to prove restorative.—About four years ago a very delicate valetudinarian lady swallowed two ounces of the camphorated tincture of opium, mistaking it for a purgative draught. I saw her about three hours afterwards, and found her overcome by deep sleep, so as scarcely to be roused by all the efforts of her attendants. We removed her from her bed to an erect posture in her chair, and fomented her legs. With great difficulty I prevailed upon her to swallow a cup full of strong green tea, which soon proved emetic. After some bilious discharge from her stomach, she drank freely of the tea in a more dilute state, and in a few hours recovered entirely from the effects of her inadvertence. The quantity of opium which she had swallowed in the tincture, did not probably exceed four grains, from which no permanent ill effect might have been expected. But I did not trace in the after course of the gouty disorder under which she then laboured, any vestige even of temporary mischief from the accident.—I mention these facts, rather as hints, than as affording any solid evidence for relying upon green tea as a remedy in cases of a more alarming nature.

OBSERVATIONS

ON HERNIA,

BY CHARLES H. TODD,

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ON looking over my case-book, I find it has fallen to my lot to perform the operation for strangulated hernia thirteen times within the last five years. These operations, together with a great many dissections of herniæ, made in the anatomical theatre of the Richmond Hospital, and at the College of Surgeons, have supplied me with observations, which I shall proceed to lay before the Profession in the following pages.

By most authors who have written upon this subject, our attention is particularly directed to the difference of structure and density of the coverings of the hernial sac; yet, notwithstanding their precepts, this practical point is seldom sufficiently regarded by young practitioners, or at least it is considered by them as a subordinate matter. My dissections and operations, however, having shewn it to be of pa-

ramount importance, I trust I shall be excused for noticing it at the commencement of these observations.

Independently of the common integuments and subjacent cellular tissue, the latter of which varies considerably in quantity in different individuals, the several species of herniæ possess other coverings, which will be found to present remarkable varieties. In the most common form of inguinal or scrotal herniæ, by which I mean that wherein the protrusion follows the direction of the spermatic chord, we find interposed between the integuments and sac, laminæ formed of fasciæ, of the cremaster muscle, and of cellular membrane more or less condensed, according to the duration, size, and previous management of the disease. Immediately under the integuments the superficial or subcutaneous fascia constitutes a remarkable stratum, and none of the coverings of the sac exhibit so many different appearances as this. In some cases it will be found thick and dense, and consisting of several layers, between which blood vessels and nerves ramify; while in others it will appear so thin and transparent as to be scarcely distinguishable from common cellular membrane. In an old irreducible inguinal hernia, which I dissected at the College of Surgeons several winters ago, the superficial fascia was so much thickened, and altered in structure, that it must have involved the diagnosis of the tumor in the living subject, in great obscurity.

The next covering of the sac, in this species of her-

nia is formed of a fascia derived from the edges of the external abdominal ring, united to the cremaster muscle and its subjacent cellular tissue. This fascia is frequently in old herniæ very much thickened, and particularly so near the ring, in which situation it often appears composed of strong fibrous bands, extended across the neck of the tumor, and, in many instances, calculated to compress the protruded viscus, and oppose considerable resistance to its reduction. This state of the fascia I have observed to be most common in persons who have been long habituated to the use of a truss. To the posterior surface of this fascia, the cremaster muscle adheres, the fibres of which are, in some instances, very much strengthened, while in others it is difficult to ascertain whether the muscle is anterior to the sac or not. Scarpa, and other surgical writers have remarked, that the fibres of the cremaster muscle enlarge and acquire a considerable increase of strength in this form of hernia ;* but it is also worthy of notice, that this muscle is often very indistinct; and cases have occurred to me, where a single fibre of it could not be detected. When the distension is moderate, the cremaster may become stronger, and by its augmented muscular power contribute to the support of the tumor ; but when the distension and pressure are excessive, that power may be destroyed, and the whole of the muscle absorbed, or rendered so thin, that scarcely a trace of it shall remain.

* Wishart's translation of Scarpa on hernia, p. 55.

The quantity of parts interposed between the cremaster and hernial sac, must depend on the relation the hernia bears to the spermatic chord, and its investing cellular membrane. In some instances the tumor descends between the cremaster muscle and the chord, simply detaching the former from the cellular covering called the tunica vaginalis of the chord, while in others, it will appear to have passed deeply within this sheath, or even behind or between the vessels composing the chord. These are points, I conceive, of great moment, on a due attention to which the success of an operation will, in a great measure, depend; and as there are no certain criteria by which the actual number and state of the coverings of a hernial sac can be determined, prior to the incision of the skin, it is necessary to proceed in the several stages of the operation, with the utmost caution.

In that species of hernia, in which the tumor escapes from the abdomen immediately behind the external ring, and descends directly through that ring to the groin or scrotum,* it has been affirmed, that the cremaster muscle is not expanded on the anterior surface of the sac, but retains its connection

* The most important difference in the surgical anatomy of the two species of hernia, which have been denominated *oblique* and *direct descents*, consists in the relative situation of the hernia and epigastric artery. In the first the orifice of the sac is on the ilial; in the second, on the pubal side of the artery.

with the common covering of the chord: this, however, is not uniformly the case; and in a dissection of a double scrotal hernia, which I made in January 1814, where both protrusions were of this description, the cremaster muscle on one side was distinctly spread out on the forepart of the sac, while at the other side, the character of the muscle was completely lost.

In September, 1809, a subject with a large scrotal hernia was brought into the Anatomical Theatre of the Surgical Hospital: in the appearance of the tumor externally there was no peculiarity; the parts about the neck of the sac conveyed to the touch a sensation as if they were very much thickened, which I ascribed to the pressure of a truss; and supposing the case to be one of common scrotal hernia, I proceeded to dissect it for the information of some of my pupils who were present. On dividing the integuments, the superficial facia was found unusually thin, with a small quantity of fine cellular substance only between it and the lower and anterior part of the sac; but on examining the parts connected with the neck of the tumor, I was surprized to find the spermatic chord in an undivided state, extending across the upper part of the sac to its pubal side, and then descending on that side to the posterior surface of the sac where the testicle was situated. In short, this was an instance of direct descent in which, the hernia, instead of passing anterior to the chord, protruded between the chord and the inferior pillar of the ring,

so that the chord formed a sort of arch, embracing the neck of the sac for nearly two thirds of its circumference, close to the external abdominal opening.

I am not aware of this peculiar position of the spermatic chord in relation to the neck of the hernial sac, having been described by any author who has written on the subject of hernia; and until this dissection, I had not conceived the possibility of its occurrence; now however, on the strength of this case, in operating for scrotal or inguinal hernia, I make it a rule, after laying open the superficial fascia, and before dividing the parts contiguous to the neck of the sac, to feel and minutely examine those parts, (particularly if they appear unusually bulky,) and to satisfy myself as to the situation of the spermatic chord: having done this, I proceed with confidence to expose the superior pillar of the ring, which ought, in every instance, to be completely denuded, before a bistoury is introduced to cut the stricture.

Mr. Hey, of Leeds, to whom the profession of surgery is much indebted for many valuable observations, has directed the attention of surgeons to "an uncommon species of scrotal hernia." In the dissection from which Mr. Hey has drawn his description of this form of the disease, he found, that the tunica vaginalis testis was continued up to the abdominal ring, enclosing the hernial sac, and ad-

hering to it by a loose cellular substance from the ring to within half an inch of its inferior extremity; so that the tunica vaginalis contained, together with the testicle, a portion of the true hernial sac.

To understand the cause of the hernial sac being in contact with the testicle, and surrounded by the tunica vaginalis, it is necessary, according to Mr. Hey, to consider the manner in which this coat of the testicle is originally found.

"In the fœtus," says Mr. Hey, "a process of the peritoneum is brought down through the ring of the external oblique muscle of the abdomen, by the testicle, as it descends into the scrotum; which process forms an oblong bag communicating with the cavity of the abdomen by an aperture in its upper part. This aperture is entirely closed at, or soon after, birth. The upper part of the bag thus gradually contracts itself, until the communication between that portion of it which includes the superior and greater part of the spermatic chord, and the lower part of the bag, which includes the testicle and a smaller share of the chord, is obliterated. The lower part of the process or bag retains its membranous appearance, and is called *tunica vaginalis testis propria;* while the upper part covers an irregular cellular substance, without any sensible cavity, diffused amongst the spermatic vessels, and connecting them together." "In the hernia which I am describing," continues Mr. Hey; "the intestine was protruded after the aperture in the abdomen was closed; and therefore

the peritoneum was carried down along with the intestine, and formed the hernial sac. It is evident, also, that the hernia must have been produced while the original tunica vaginalis remained in the form of a bag as high as the abdominal ring: on which account that tunic would receive the hernial sac, with its intestine, and permit the sac to come into contact with the testicle. The proper hernial sac, remaining constantly in its prolapsed state, contracted an adhesion to the original process of the peritoneum which surrounded it, except at its inferior extremity: there the external surface of the hernial sac was smooth and shining, as the interior surface of the tunica vaginalis is in its natural state."*

The mother of this infant informed Mr. Hey, that she first perceived this rupture when the child was about two months old, and as male children are often attacked with a scrotal hernia in the first or second month after birth, Mr. Hey thinks it probable the disease may often be of this species when it comes on at so early a period of life; and as he conceives that this kind of scrotal hernia can only exist when the rupture is formed, while the parts retain the state peculiar to infancy, he has denominated it *hernia infantilis.*

I believe Mr. Hey is not very accurate in stating, that in the fœtus a process of the peritoneum is brought down through the ring of the external

* See Hey's Practical Observations in Surgery, 2d edition, p. 226.

oblique muscle by the testicle, as it descends into the scrotum. This would lead us to infer, that the tunica vaginalis of the testicle was formed by the mere weight or protrusion of the testicle, in a manner similar to the formation of a common hernial sac. The fact is, that this process of the peritoneum exists in the groin before the testicle has arrived at the ring,* and the testicle descends gradually into the scrotum, preserving the same relation to that process as it did to the general sac of the peritoneum while in the abdomen. The communication between the peritoneum and tunica vaginalis secures to the testicle a serous covering in every stage of its descent; this is, perhaps, its chief use; for when that gland has come down to the lower part of the membranous bag, the communication being no longer necessary, its obliteration commences.

It appears to me to be a law of the human economy that, as soon as the testicle has descended, the continuity of surface between the peritoneum and tunica vaginalis shall cease to exist, and that these serous membranes shall become distinct; each is therefore endowed with the power of insulating itself, and the closing up of the original communication is as perfect in the superior part of the tunica vaginalis as in the peritoneum.

The vaginal coat of the testicle is a simple serous membrane, though the cellular substance immediate-

* See Bell's Anatomy, vol. III. p. 374.

ly enclosing it is dense, and sometimes exhibits even a fibrous appearance. This cellular substance can be traced extending along the vessels of the chord, and forming its sheath as far as the internal abdominal ring, where it is lost in the cellular tissue of the peritoneum, an arrangement which is well described by Professor Scarpa in his treatise on hernia.*

* The cellular substance which, lying behind the great sac of the peritoneum, surrounds the spermatic vessels, and accompanies them under the fleshy margin of the transverse muscle, continues to encircle those vessels in their passage through the separation of the inferior muscular fibres of the internal oblique, and along the inguinal canal, through the ring into the groin and scrotum, to the place where these vessels are inserted into the testicle. This cellular sheath, the continuation of that which connects the great sac of the peritoneum to the muscular and aponeurotic parietes of the abdomen, the nearer it approaches to the passage of the spermatic vessels out of the inguinal ring, becomes thicker and more puffy, and having passed through the inguinal ring, is found enclosed along with the spermatic vessels and the vaginal coat of the testicle, in the muscular and aponeurotic sheath of the cremaster muscle, which extends to the bottom of the scrotum. On making a small perforation in the upper part of this sheath of the cremaster, and forcing air into the cellular substance surrounding the spermatic chord, this cellular sheath is readily distended, and is raised in the form of a large cylinder, which extends downwards through the groin into the scrotum, as far as the point of insertion of the spermatic vessels into the testicle, at which point a depression or circular furrow is observed marking the limits between the cellular substance of the chord and the vaginal coat of the testicle. During this state of artificial distension of the cellular substance, surrounding the spermatic vessels, if the sheath of the cremaster muscle be divided, with the hand unsupported, the cellular substance surrounding the spermatic chord appears denuded, and is observed to be

From a mature consideration of these anatomical facts, I am convinced that the generally received opinion respecting the formation of what Mr. Hey has denominated *Hernia infantilis*, is erroneous, and that in no instance is the sac in actual contact with the testicle. If this were the case, we should always find the external surface of the sac covered with a loose cellular substance similar to the general outer surface of the peritoneum; whereas the lower part of it uniformly possesses a serous covering, and where that covering is deficient towards the neck of the sac, it is enveloped by the cellular sheath of the chord.

My idea of this form of rupture is, that in it the hernial sac is protruded completely within the cellular sheath of the chord, that when it descends near to "the point of insertion of the spermatic vessels into the testicle," its fundus comes in contact with the upper part of the tunica vaginalis testis, and receives from it, on its lower surface, a serous covering proportioned to the magnitude of the tumor, or the degree of distension of the sac. I am

composed of large and long cells resembling a spongy vesicular substance, readily yielding and distendable, without laceration, through which the spermatic vessels appear separated from each other, and at the side of them is perceived that elongation of the peritoneum, which in the infant constituted the neck of the vaginal coat of the testicle. The facility of distinction of the cellular substance, surrounding the spermatic vessels, is rendered likewise evident by the diffused hydrocele of the spermatic chord." *See Wishart's Translation of Scarpa on Hernia*," page 38.

also of opinion that this species of hernia is not peculiar to infancy; on the contrary, I believe it may occur at any period of life, and that it does occur more frequently than surgeons are aware of; at the same time, I am ready to admit, that it must take place more easily in an infant than in an adult, for the following reason. At the time the communication between the peritoneum and vaginal coat of the testicle begins to be obliterated, the testicle has not actually descended into the lower part of the scrotum; it is then rather in the groin than in the scrotum; and even when the obliteration is complete, and for some time after, the two serous membranes are contiguous; it is only as the child advances in life, that the spermatic chord elongates, and a considerable distance intervenes between them: so that when a rupture takes place in an infant soon after birth, the hernial sac requires to be protruded but a short space from the abdomen, and within the sheath of the spermatic cord, before it comes in contact with the tunica vaginalis testis, to the upper part of which, a moderate degree of distension will cause it to adhere. According as the hernial sac increases in size, its fundus obtains a greater extent of covering from the serous membrane of the testicle, and, when distended, presents a surface, "smooth and shining, as the interior surface of the tunica vaginalis in its natural state," apparently within that tunic, but actually above it. In this species of hernia, the testicle will most commonly be found at the bottom of the scrotum, unless the tumor is unusually large, and in that case,

it may be detected at the lower and back part of the hernia; but even in large herniæ of this description (two instances of which I had an opportunity of dissecting) the testicle is connected more with the fundus of the sac, than in the common species of scrotal hernia.

During the period that I served as an assistant Surgeon to the Westmoreland Lock Hospital, to which establishment, the Institution for supplying the Ruptured Poor with trusses is attached; I remarked, that in several cases of large scrotal herniæ the testicle was situated completely at the bottom of the tumor, that these cases were frequently complicated with hydrocele, and that, when the contents of the sac had become irreducible, patients complained of inability to wear a suspensory bandage, in consequence of the inconvenient position of the testicle.* I was unable to account for these circumstances, until an opportunity occurred to me at the College of Surgeons, of making an examination of an instance of this kind in an adult subject, brought there for dissection. In this case the hernia was very large, but reducible; the testicle was in the most inferior part of the scrotum, and a small quantity of fluid was contained in its tunica vaginalis. I commenced the dissection by making a longitudinal incision from a little above the abdominal ring to the lower part of the scrotum; the integuments and subcutaneous fascia being removed, the cremaster

* Vide Icones Herniarum Petri Camperi. Tab. quarta, & Tab. decima tertia.

muscle and its fascia appeared remarkably strong; these being divided, I found an extremely firm layer of cellular substance embracing the hernial sac, and continued from it, on the tunica vaginalis testis; that membrane was next laid open, and appeared to have contained about three ounces of a transparent fluid; and then the lower part of the hernial sac, over which the serous membrane of the testicle was extended, presented itself; the upper part of the sac was contained within the common sheath of the chord, but connected to it by cellular substance.

In another dissection of an hernia resembling the foregoing, the quantity of fluid contained in the tunica vaginalis testis was greater; the hernial sac was covered by the serous membrane of the testicle, to within two inches of the abdominal ring; and the sheath of the chord resembled a fibrous membrane in structure.

In January last, a man, about 40 years of age was received into the Richmond Surgical Hospital, with a large scrotal hernia, in a state of strangulation; on the lower part of the hernia, the tunica vaginalis testis, containing a considerable quantity of fluid, formed in some degree a distinct tumor, the extent of which seemed limited superiorly by a superficial depression of the integuments, nearly surrounding the scrotum. This man informed me, that the rupture had taken place about eight years before, that for some time the tumor did not descend below the groin, but that during the last two years, it had increased very much, and within that time he ob-

served the hydrocele to form; that he was always able to reduce the intestine without difficulty, until the preceding evening, when on attempting to raise a heavy stone, the bowel protruded suddenly, and his usual efforts to return it were ineffectual. At the time I saw the patient, the symptoms of strangulation were urgent; however, after abstracting a large quantity of blood from both arms, he was relieved by the taxis, and left the hospital on the third day.

The following circumstances distinctly observable in the preceding case, induced me to believe it to be an instance of this peculiar form of hernia.

First, The testicle being situated at the lowest part of the hernia, although that tumor was unusually large*—and

Secondly, the tunica vaginalis testis, containing a fluid, a part of which could be made, by a little pressure, to pass for some distance in front of the hernial sac, towards the abdominal ring.

These I conceive to be the most certain diagnostic symptoms of this species of hernia, and if the possibility of its formation at a period of life subsequent to infancy, be admitted, the advan-

* Where the sheath of the spermatic chord is stronger than usual, it may oppose such a degree of resistance to the distension of the sac, as to give to the hernia a more elongated form than is possessed by the common scrotal hernia, or the hernia congenita.

tages of a diagnosis, in cases which may require operation, will be sufficiently obvious.

I do no not consider hydrocele as necessarily a concomitant affection; but I think it more likely to take place in this than in the other scrotal herniæ, from the pressure which the vessels of the spermatic chord must suffer, the protruded viscus and sac being in such close apposition to them; and when it does occur, I think it probable, that the extent of of the serous covering, afforded to the hernial sac by the tunica vaginalis testis, will be augmented in proportion as that membrane is distended by the accumulation of fluid.*

Should strangulation occur in this peculiar species of hernia, and the operation become necessary for the relief of the patient, I conceive it quite practicable, in many instances, to open the hernial sac, without dividing the tunica vaginalis testis;† our being able to do this, however, must depend on the extent of that part of the anterior surface of

* When this form of hernia and hydrocele co-exist, the hydrocele will feel tense when the hernial sac is distended, in consequence of the lower part of the sac being depressed by its contents towards the bottom of the scrotum; but when the intestine has been reduced, the fluid of the hydrocele will generally be found inadequate to the complete expansion of the tunica vaginalis, and the fundus of the sac may be then felt through the scrotum, in a collapsed and flaccid state.

† "It would be necessary in this case, after laying open the tunica vaginalis, to divide also the sac which more immediately invests the prolapsed viscera." *Lawrence on Ruptures*, p. 437.

the sac, which is not covered by the serous membrane of the testicle. In Mr. Hey's case, the external surface of the hernial sac was adherent to the surrounding parts, except at its inferior extremity; and had the operation been performed, the hernial sac might have been laid open superiorly and anteriorly to a sufficient extent, without denuding the testicle. In Mr. Foster's case, published by Mr. Cooper, in the first part of his work upon hernia, the sac had a serous covering to within a very short distance of the abdominal ring. Here the tunica vaginalis testis must have been opened, before the sac of the hernia could be exposed; and in the dissections related above, the extent of the loose cellular surface of the sac varied.

In an operation for this kind of rupture, I would advise, that the incision should not be extended to the lower part of the tumor; that after dividing the covering formed by the cremaster muscle and contiguous fasciæ, the sac should be exposed by cautious dissection on its anterior and superior surface, and then opened in the usual way at that part, near to the abdominal ring. The dilatation of it should be directed downwards, the finger of the operator having been previously introduced, to ascertain the distance to which the fundus of the sac descends, and the probable extent of the connection between it and the tunica vaginalis.

If the serous membrane does not cover much of the anterior surface of the sac, the dilatation may be

free. But it is better, in my opinion, that the surgeon should experience some inconvenience from the opening in the sac being small, than incur the risk of his patient suffering severe pain and inflammation of the testicle, frequently consequent on its mere exposure.

By the joint labours of Gimbernat, Hey and Cooper, great improvements have been made within these few years in the Surgical Anatomy of Crural Hernia; and the parts concerned therein have been so accurately described, by the last author in particular, that few points appear to require further illustration.

The first important circumstance which generally attracts our attention on examining a crural hernia, is the peculiar situation which it occupies; being actually more on the abdomen than on the thigh, and ascending so much in front of the crural arch, and aponeurosis of the external oblique muscle, as strongly to resemble bubonocele. Although this fact has not been overlooked by modern writers on surgery, yet I have known practitioners of experience undecided as to the true nature of a hernia, until the integuments were divided, and the relative position of the neck of the sac and Poupart's ligament, brought into view.

This position, occupied by the hernial tumor in almost every instance, has been thus accounted for by Mr. Lawrence in his treatise on ruptures. "Since

the motion of the thigh and the more close adhesion of the integuments to the subjacent parts resist the increase of the tumor downwards, and the larger quantity of cellular and adipose substance at the bend of the limb offers less resistance, it comes forward to the surface, so as to lie in general in front of the crural arch." (p. 349.) Mr. Lawrence's explanation appears to me perfectly satisfactory; but when the student compares it with Mr. Cooper's description of the superficial fascia, he cannot subscribe to the accuracy of both. "When the skin is removed from the crural arch and forepart of the thigh, says Mr. Cooper, a thin fascia will be seen to extend over the tendon of the external oblique muscle, *and to adhere firmly to the edge of the arch*," &c. Now, were this the case, it must be obvious, that as the superficial fascia forms one of the coverings of the hernial sac, its connection with the crural arch would oppose the ascent of the tumor, and the increase of the swelling downwards would occur with much greater facility. A careful dissection of these parts, however, shews us, that the superficial fascia is really as loosely connected to the lower border of the obliquus externus, as to any of the other subjacent parts, and that when exposed, we can move it with our fingers on the parts over which it is expanded, with equal ease every where, except at the hollow of the thigh, where the cutaneous vessels and nerves, the lymphatics and their glands, are entangled with its laminæ.

The fascia lata of the thigh, where it is intimately

united to Poupart's ligament, sends off a thin but compact layer, which passes upwards closely connected to the aponeurosis of the external oblique muscle, by fine cellular tissue, and, like all other fasciæ, exhibiting varieties of structure in different subjects. This process of the fascia lata is generally overlooked in dissection, and, when we dissect towards the thigh, is often raised with the superficial fascia, of which it then appears merely as a layer, firmly adhering to the crural arch; but, if we commence our dissection on the thigh, and trace the superficial fascia upwards, we shall raise it distinctly, and leave the deeper fascia in its situation.

As the deep seated fascia of the abdomen is evidently continuous with the external surface of the fascia lata, it follows, that the hernia ascending in front of the crural arch, must be interposed between this and the superficial fascia, and consequently that the close adhesion of the deep seated fascia to Poupart's ligament, cannot be an obstacle to the course of the hernial tumor upwards.*

* Scarpa erroneously describes the crural hernia, as being situated under this layer of the fascia lata.

"Below this glandulo-cellular layer, (the superficial fascia) another appears entirely aponeurotic, but of unequal density, that is, denser and firmer towards the ilium than in the vicinity of the pubis. This aponeurotic covering of the hernia, is only, in reality, the aponeurosis of the fascia lata which is extended upwards, and spreads over the femoral arch and inguinal ring, and in the male descends over the cremaster muscle. This aponeurotic web of the fascia lata, when it is about to pass over the femoral arch, adheres firmly to the fallopian ligament, to which it is so firmly united, that it cannot be separated without laceration." p. 247.

Both Mr. Cooper and Mr. Lawrence have expressed themselves strongly on the danger of mistaking a crural, for an inguinal hernia, and have pointed out marks of distinction which require to be carefully attended to. These authors assert, that if the tumor in femoral hernia be drawn downwards, the crural arch may be traced passing over the neck of the sac, while in bubonocele it is found under that part. I have not succeeded satisfactorily in every instance in deciding on the existence of a crural hernia by this rule; and I have observed, that it is not always practicable to draw the tumor downwards, particularly if inflammation has extended to the parts exterior to the sac; in endeavouring to draw the swelling towards the thigh, the integuments are rendered more or less tense, and this alone occasions a difficulty in feeling Poupart's ligament passing across the neck of the sac. A more unerring rule towards a diagnosis, in my opinion, is to search for the neck of the tumor under the crural arch, and this is done with great facility in the flexed position in which the thigh is usually kept. In consequence of the relaxed state of the fascia lata, Poupart's ligament may be traced, extending from the superior spinous process of the ileum to the crural ring; but if the Surgeon presses his fingers firmly at that part, between the hernia and the thigh, he will feel the neck of the tumor turning under the ligament, and then coming in front of it. In thin persons the neck of the tumor can be distinctly felt in this situation, and in large women, in whom the integuments of the abdomen are generally loaded with fat, I have found this di-

agnostic mark more conclusive than that of Mr. Cooper.

In the anatomy of crural hernia, there is nothing more deserving attention than that remarkable covering of the sac, which Mr. Cooper has termed the fascia propria; and as I conceive an acquaintance with the manner in which it is formed, and with the various appearances which it assumes in different cases, is indispensable to the operating Surgeon, I shall beg leave to offer a few remarks on these points, especially as they have been treated somewhat slightly in the most approved works on hernia.

Mr. Cooper describes the fascia propria, as formed of a thin fascia, which naturally covers the opening through which the hernia passes, and descends on the posterior part of the pubis, united to that portion of the crural sheath, which is perforated for the passage of the absorbents. Mr. Lawrence says, he has not found this thin fascia on dissection, and refers the origin of the fascia propria to the condensed fibrous substance which completes the crural sheath on its inner side; however, in every dissection of the parts which I have made, this thin fascia of the femoral ring has been sufficiently evident, although not confined to the orifice of the ring and posterior part of the pubis, as might be inferred from Mr. Cooper's description of it. I conceive this to be the continuation of that fascia, which in Mr. Abernethy's operation for iliac aneurism, prevented his passing his finger beneath the artery, until he made a slight incision

through it on either side of the artery; and that it may be traced descending in front of the iliac vessels to the crural arch, at which part it comes forward, and then ascends on the inner surface of the fascia transversalis. In some instances I have seen it stretched on the orifice of the femoral ring, in others, depressed, as if pushed through the ring with the end of the finger. It appears to me, then, that the fascia propria of the crural hernia is formed not only of a portion of this thin internal fascia, but also, in many instances, of all the dilatable parts interposed between the hernial sac and the superficial fascia; and that its thickness will depend on the thickness and structure of these parts, on the alterations produced in them by inflammation and pressure, and on the perforated portion of the crural sheath, in some cases composing a layer of this fascia, while in others the hernia dilates, and is protruded through one of its foramina, frequently pushing before it a large absorbent gland from the orifice of the sheath.*

I have performed the operation for crural hernia six times, and in each the fascia propria exhibited some obvious difference either in regard to thickness, structure, or colour. In one case it was remarkably thin and transparent, resembling the hernial sac, the

* Scarpa calls this covering of the sac, *the proper cellular sheath of the hernia*, and says, "it is formed by the cellular substance external to the great sac of the peritoneum, and by that which accompanies the great femoral vessels under the crural arch." p. 249.

tumor was larger than it usually is in this species of hernia, and when the superficial fascia was removed, presented a pyramidal figure. In another case this fascia was thick and firm, and had acquired a dark blue colour, the superficial fascia closely adhered to it, and it appeared to consist of distinct layers, between which absorbent glands and fat were situated. In the case of a lady on whom I lately operated, the fascia propria had become so thick and compact as to resemble the diseased cyst of a tumor; it had also connected with its anterior surface an enlarged lymphatic gland, which it was necessary to remove before the hernial sac could be exposed.

It occurs to me that a tolerably accurate conjecture of the state of the fascia propria, may be formed previous to operation, from the size of the swelling and the duration of the disease: in a recent hernia, I should expect to find it thin, and particularly so if the tumor is large: in old herniæ, which have become strangulated, and in cases where trusses have been long used, this fascia may acquire much thickness and density.*

The peculiar manner in which the immediate coverings of the hernial sac were affected in the following case, as well as other unusual occurrences,

* "In a small hernia the fascia is thicker than the sac itself, but by being gradually extended it becomes thinner and less distinct."—*Cooper on Crural Hernia, p.* 7.

which will be noticed in the progress and termination of the complaint, renders it, in my opinion, worthy of insertion in this place.

A few weeks ago an elderly man was sent to the Richmond Surgical Hospital, by Doctor Fergusson of Leixlip, who had laboured under strangulated hernia for ten days. A flattened tumor was situated on the right side of the abdomen, extending from the bend of the thigh almost to the umbilicus, and from the pubis to the anterior superior spinous process of the ileum. The skin exhibited an erysipelatous redness, with a desquamation of the cuticle; in the centre of the tumor a fluctuation was felt, and a crepitus towards its circumference. The patient was exceedingly low and weak, his pulse scarcely perceptible, and his extremities cold. He had hiccup, but the vomiting, which was very distressing for some days, had ceased on the preceding evening. Early on the morning of his admission he had two small evacuations per anum; however, the abdomen continued full, tense, and painful.

After consulting with Mr. Peile, the senior Surgeon to the hospital, I made an incision into that part of the tumor where the fluctuation was most evident, which was about three inches above the crural arch, and nearly half a pint of extremely fœtid matter was discharged. I then introduced my finger into the cavity of the abscess, and found several large sloughs of fasciæ and cellular substance, some of which I was able to remove; my finger passed easily towards the

thigh, and I dilated the wound in that direction; on removing more sloughs, I discovered a tumor at the femoral ring, about the size of a walnut, which proved to be a hernia. It was completely insulated, all the surrounding cellular substance, and even the fascia propria, having mortified. The hernial sac was dark coloured, but preserved its tension, and having been cautiously opened, a small portion of sphacelated intestine was exposed. I then examined the ring, it was so small as barely to admit the point of my finger, and the sharp edge of Gimbernat's ligament was distinctly felt; of this I divided a few fibres, and completely removed the stricture. The protruded intestine adhered closely to the mouth of the sac, I therefore made a small opening into the sphacelated portion of it, through which some fæces were immediately discharged.—All the parts were then covered with an emollient poultice; and as the patient was much exhausted a little wine was given him, and he was directed to take small quantities of beef tea in the course of the day.

In the evening, without the aid of medicine, my patient had a natural evacuation; some thin bilious and feculent matter appeared on the poultice, his pulse had become distinct, and the temperature of his skin uniform; an enema was administered every third hour, and a gentle purgative mixture was prescribed for the following evening.

At my visit next day I found him greatly reliev-

ed; the evacuations per anum had been numerous and satisfactory, the fullness of the abdomen had subsided, and the discharge of fæces at the groin was very inconsiderable. From this period his recovery was progressive, and he was dismissed from the hospital at the expiration of a month, perfectly well, with the exception of a small fistula at the groin, through which a quantity of fluid, tinged with bile, occasionally passed, so trifling as to cause little inconvenience.

There are so many different opinions with respect to the seat of stricture in crural hernia, that I shall take the liberty of stating the result of my experience on this point. In five of the cases in which I operated, the intestine was effectually liberated by dividing the sharp aponeurotic edge which forms the pubal boundary of the femoral ring; and although many consider it difficult to introduce the finger so far into the neck of the sac as to feel this edge, and conceive that the division of a part of it is attended with considerable risk, yet the operations which I have performed have led me think, that the stricture in this species of hernia is most commonly formed by the ring, and that it is removed with greater ease and safety by a cautious dilatation towards the pubis, than in any other direction.

Mr. Cooper, amongst other objections which he has urged against the operation inwards, states, that if the hernia is large, this mode of dividing the stricture is not sufficient to allow of the return of the pro-

truded parts, for it gives but little additional room, so that great force must be used to reduce the hernia.* This assertion of Mr. Cooper has not been confirmed by those cases and dissections which have fallen under my observation; in no instance have I found it necessary to cut more than a few fibres of what is called Gimbernat's ligament, and this has uniformly proved sufficient to enable me to return the protruded viscera without difficulty.

An ample enlargement of the femoral ring inwards, appears to me quite practicable; nay, in the manner in which the operation is usually performed, Gimbernat's ligament may even be detached from the pubis to such an extent, as to render the crural arch afterwards exceedingly weak, and consequently to expose the patient to larger visceral protrusions at this part.†

I operated for crural hernia, two years ago, on a woman in the Richmond Surgical Hospital; the stricture was removed by cutting a small portion of Gimbernat's ligament, and the contents of the sac, which consisted both of omentum and intestine, were easily reduced; however, the symptoms of strangulation continued, no discharge from the

* See Cooper on crural hernia. p. 22.

† I was present at an operation once in which this error was inadvertently committed, and where considerable embarrassment and delay occurred in consequence of the difficulty of retaining the intestines within the abdomen.

bowels could be procured, and she died on the following day.

On dissection it was found that the portion of intestine which had been protruded, had become entangled with the omentum after reduction, the latter having contracted a firm adhesion with the orifice of the hernial sac, and thus an internal strangulation took place, which proved fatal. On examining the crural ring, I ascertained that Gimbernat's ligament had been detached from the pectineal ridge for nearly half an inch, and that, had it been necessary, the enlargement of the ring might have been continued to a much greater extent in that direction.

A few months ago I performed this operation on an old woman who had been brought into the Fever Hospital of the House of Industry, almost in a state of insensibility. She had had a strangulated hernia for several days. Her friends supposing she laboured under idiopathic fever only, obtained her admission into that part of the Institution; but the nature of her disease having been at once detected, she was placed under my care by Dr. Cheyne. On opening the hernial sac, the intestine was discovered dark-coloured, but apparently sound. Some slight adhesions existed between it and the sac; these I removed, and then endeavoured in vain to reduce the intestine.

The border of Gimbernat's ligament was so dis-

tinct, that I availed myself of the opportunity of allowing an intelligent pupil, who assisted me in the operation, to feel it, and to compare its state of tension with the relaxation a small incision produced in it. On dividing the edge of the ligament, the intestine was returned without difficulty, and the patient recovered.

The mode of dividing Gimbernat's ligament, which is usually adopted, and which has been recommended by Gimbernat himself, is, in my opinion, objectionable.

In the first place, the crural ring is, in most cases, so completely filled up by the prolapsed viscera, that the introduction of a director is attended with considerable difficulty. Secondly, when both director and bistoury have been introduced, they are often so tightly embraced, that they cannot be very easily moved, and the operator, having both his hands employed in the management of instruments, cannot sufficiently guard the intestine from injury. And lastly, I have found, that the manœuvre of cutting the ligament towards the spine of the pubis, at the same time that the surgeon is drawing out the instruments, is by no means a safe part of the operation, and requires much dexterity and experience.

The division of the stricture in crural hernia, I think is best effected by adopting the following rules.

After the sac is opened, let the operator pass the forefinger of his left hand (if the hernia be on the right side, and *vice versa,*) as far as he can, without using force, into the neck of the sac, the back of the nail being turned towards the pubis, and its extremity being applied to the edge of Gimbernat's ligament; Mr. Cooper's bistoury* is then to be introduced, the finger serving as a conductor for it, the bistoury being held so, as that its edge shall look towards Poupart's ligament, and one of its sides be in contact with the nail of the conducting finger, between which and Gimbernat's ligament it is to be passed. Having ascertained with the blunt extremity of the bistoury, that it is fairly introduced into the crural ring, the intestine being protected as much as possible by the left hand of the operator, the edge of the bistoury is to be turned towards the pubis, and being pushed a little further into the ring, the sharp portion of its edge will be brought into contact with Gimbernat's ligament, and will divide a few fibres of it. The operator is still to keep the conducting finger between the intestine and bistoury, as thus he will be enabled to perceive the dilatation of the ring, and to judge of the extent to which it may be necessary to enlarge it.

* This bistoury is delineated in Mr. Cooper's Work on Hernia. Plate XI. part I.

A

CASE OF MELAENA;

WITH

OBSERVATIONS

ON THE

ALTERNATE EXCESS OF MORBID ACTION

IN THE

MUCOUS AND SEROUS MEMBRANES.

BY J. CHEYNE, M. D. &c.

TO the attention of the pathologist, who may be inclined to adopt the sudden translations of diseased action, as a subject of inquiry, I beg to offer the following case. It may be observed, that the translation in this case could not be referred either to the Epigenesis or Metastasis of the older writers, in the former of which the original disease subsists after the establishment of the supplementary one; in the latter, the second disease always puts a period to the first. This arrangement of the subject, therefore, is incomplete; while that recommended by Dr. Ferriar, in his essay on the conver-

sion of diseases, is objectionable, inasmuch as it is founded partly on the causes, and partly on the symptoms of the supervening disease.

Case. Michael Quilty, Taylor, æt. 24, was brought to the Meath Hospital on the 10th of January, 1812, in a state of great weakness and exhaustion; his face bloodless, his eyes languid, and his features relaxed; moaning and shivering. The smell of his breath, although not fetid, was pungent and disagreeable, resembling that of a dram drinker, but more carneous. The heat of his body was increased, but his extremities were cold. He complained of pain in the lower part of the epigastric, and upper part of the umbilical regions. Pulse 120, tongue dry, pale, and coated with light brown mucus. His legs, especially along the shin bone, were affected with a vesicular eruption; the vesicles contained a yellowish lymph, and many of them had degenerated into scabs.

For four or five days before admission, he had been affected with pain in the upper part of the abdomen, and his appetite had failed. The pain became severe on the 9th of January, then nausea came on, which was followed by a discharge upwards and downwards of black matter and clotted blood, to the amount of four or five quarts. The hemorrhage returned at intervals during the night. He maintained that he was temperate with regard to spirits, and that his health had been good, with the exception of an attack of hemorrhage in

the beginning of 1811, nearly as severe as the present.

A blister was applied to the upper part of the abdomen, and a drachm of sulphate of magnesia in a little mint water was given every second hour. But on the 11th, as he continued to pass by stool a quantity of inky matter intermixed with blood, and was becoming weaker and weaker, he was ordered to take a small dose of the rectified oil of turpentine every second hour, which, while it stopt the discharges of blood, seemed to lock up the bowels, so that, for nearly three days, he was without a stool, his abdomen all the while increasing in bulk. On the 16th, there was evidently a fluid in the cavity of the abdomen, and the stools, when at last obtained, consisted of hardened colourless fæces. On the 18th his pulse was 96, and his urine scanty, Crystals of tartar were given him without benefit; then the blue pill with squills was given, which increased the quantity of urine, but produced no change in the appearance of the stools. This combination was taken for only two days, as the gums began to swell from the mercury. On the 28th, having taken two powders, each of which contained a scruple of the compound powder of jalap Ph. Ed. and two grains of squills, several stools without bile were passed; the urine was free and the pulse 108. He had a hard dry cough, and his mouth continued sore. In the afternoon there was a return of hemorrhage; four large basinfuls of blood were discharged from the stomach, and about a pint of pitchy matter from the bowels.

On the 29th, his pulse was 136, countenance pale, voice feeble, manner languid. The tension of the abdomen was less. Hemorrhage from the stomach and bowels, to the amount of a quart, took place in the afternoon, and he complained of great weakness, and of soreness at the epigastrium. On the 30th, the distension of the belly was scarcely perceptible. In the afternoon, he again lost about a quart of blood, after which he grew gradually weaker, and expired about 5 o'clock p. m.

Dissection. Before laying open the cavity of the abdomen, we could not fail to remark the great subsidence of the swelling. When the cavity was opened, there were found in it not more than two or three pints of fluid. The omentum was loaded with fat; the mesentery was uniformly loaded in its whole extent with fat, as was the mesocolon in a still more remarkable manner, the stratum of fat being at least two inches thick; behind the peritoneum, and over the great blood vessels, there was a column of fat, nearly four inches in diameter; there was also an unusual lodgement of fat between the serous and muscular coats of the great intestines. The serous membrane lining the whole of the membranous viscera, was without a vessel containing red blood. The stomach was much distended, especially its great extremity; the muscular coat was thicker than usual; over the mucous membrane there was a general blush of inflammation, at some parts scarcely perceptible, at others, particularly round the cardiac orifice, and at the great extremity, of a very deep

red; at the pylorus of a blackish mottled appearance, as if from points of extravasation. There were also many opake white spots, not larger than the heads of pins, all over the internal surface of the stomach; this surface was coated with a very viscid mucus, which was scraped off with difficulty, and appeared tinged with blood. The condition of the duodenum, jejunum, and ileum, resembled that of the stomach. Towards the extremity of the ileum the intestine appeared much darker, partly from a quantity of pitchy matter which it contained, and partly from the dark colour of the mucous membrane; these appearances were still more remarkable in the caecum and colon; there was no feculent matter in the whole course of the canal. The liver was of a brownish grey or ash colour. Its serous membrane, in many parts, was opake, from an irregular deposition of coagulable lymph. The viscus was inelastic and hard; its left lobe exceedingly enlarged, and bulging in its convex surface, filled the epigastrium; the right lobe was as remarkably of a diminished size. In cutting into the liver we found it hard, and of the same unnatural colour throughout, and it contained no blood in its vessels. The ductus hepaticus was about half an inch in diameter, of a greater diameter than the ductus communis, which however seemed of a large size; the ductus cysticus was of the usual size; none of the ducts were thickened; the gall bladder contained about an ounce and half of light yellow bile. The spleen was double the usual size, its serous membrane much thickened, and opake; it was of an unusually bright colour, but this colour

did not penetrate more than a line; the rest of the organ was pale, and apparently destitute of blood. The kidneys were pale and flabby, and there was no urine in the bladder. The left testicle was much enlarged from a varicose state of the veins.

There was about a quart of yellow fluid in the cavity of the thorax. The posterior part of the lungs was the only part of the body in which the blood had gravitated. In the substance of the lungs we found a small pulmonary calculus. The heart was pale and flaccid, without and within, and was destitute of blood, as were all the great vessels, with the exception of the inferior cava, in which there was a small coagulum.

The adhesion was so great between the dura mater and bone that they were not separable. The vessels of the pia mater were nearly destitute of blood, but contained a good deal of air. The tunica arachnoides was opake and thickened, and contained a considerable serous effusion. There was a general whiteness of the whole of the surface of the brain. The cortical substance had not much more colour than the medullary. The cerebellum was soft and pale.

It was the opinion of physicians in former times, that the liver secreted a yellow, and the spleen a black bile; and the inky matter which is sometimes rejected by vomiting, and by stool, they supposed

consisted of *atrabilis* which came from the spleen through the vasa brevia into the stomach. The most complete refutation of this doctrine is contained in Portal's elaborate Memoire " sur la nature, & sur le traitement du Melaena." In that paper Portal, confirming the observations and opinions of Home, has shewn, that the black matter transudes from the minute arteries of the inner surface of the stomach and intestines; that, in fact, it is blood poured by these vessels into the cavity of the intestines. The intermixture of red blood with the black matter * which Quilty vomited, is an additional proof, if such were wanted, that the latter is blood disguised by some peculiar condition of the vessels from which it is poured.

I have known vomiting of inky blood the consequence of long continued sea sickness in two instances, in which there was no reason whatever to suppose that tumor or obstruction existed in any of the solid viscera of the abdomen; this I mention to shew, that the morbus niger may depend solely upon an excitement of the inner surface of the stomach, which I believe is the proximate cause of the black-vomit in the worst description of fevers of type.

In this case, I adopted the practice recommended by Mr. Adair (4th vol. Medical Facts and Observations), and endeavoured to stop the discharge by

* This, if I recollect right, happened in one or two of Dr. Home's cases. See his paper on Melaena, in his clinical observations, &c.

means of the rectified oil of turpentine, and I succeeded beyond my expectation; but what happened? There was not merely a suspension of the hemorrhagic effort obtained, but the natural secretions were suspended also, and the cavity of the peritoneum began to fill with fluid. In the course of five days fluctuation was manifest, and in consequence of the activity of the exhalents of the serous membrane, the fluid which ought to have passed off by the kidneys received a new direction.

After the crystals of tartar had been tried without avail, I was induced, by the want of bile in the stools, and by the deficiency of urine, to give the blue pill, to which I afterwards added squills. As it often happens, after a great loss of blood, the gums were speedily affected, and the mercurial, as also frequently occurs when the biliary discharge is not restored by it, increased the general irritability of the habit. In this condition of the habit two powders were given of compound powder of jalap and squills, which, instead of producing stools, reproduced the hemorrhage in a fatal degree.

But no sooner was the mucous surface of the intestines again excited than the excitement of the serous exhalents subsided. The bulk of the abdomen was speedily reduced; and, upon dissection, there were found not more than two or three pints of fluid in a cavity, which, a few days before, must have contained, at a moderate computation, seven

or eight quarts: indeed the case formed, at that period, a well marked instance of ascites.

It is not my object to vindicate the practice in this case; had there been less interference, more of *expectancy*, the patient might have lived longer; but the case is not the less valuable as a matter of record, on that account. Its chief value, however, arose from its having first called my attention to the important consequences which, in many instances of disease, arise from the alternate excess of morbid activity of the mucous and serous surfaces, a point which will be further illustrated by the following specimen of a very common disease.

Case. A postillion, eighteen years of age, was admitted into the Meath Hospital on the 8th of October 1812, affected with ascites. His abdomen was very prominent and tense. His skin was dry, his urine scanty with a pink deposit, his tongue was a little furred, and he had some thirst, but his general health was not much impaired.

About three weeks before the period of his admission he was attacked with rigors, followed by a frequent inclination to go to stool; with tenesmus and discharges of slime, and occasionally hardened fæces. Previous to, and during the course of this affection of his bowels, he was, from the nature of his situation, exposed to wet, and cold feet. The bowel complaint continued for nearly a fortnight, when it suddenly stopped, and he began to perceive

a fullness of his belly, which progressively increased.

While he continued in the hospital he had several attacks of severe pain in the abdomen, which were followed by tenderness and impatience of pressure between the umbilicus and pubes. These attacks were relieved by anodynes; and by local bleedings their return appeared to have been prevented.

The blue pill, combined with ipecacuan, was ordered, and he took several doses of castor oil. On the 17th his gums were tender, and detached from the teeth, but the tension of the abdomen had rather increased. The urine, though more copious, was still insufficient in quantity; the discharges by stool were inconsiderable. The mercurial was laid aside, and cream of tartar, with a small addition of jalap, was substituted. He was also directed to take spiritus ætheris nitrosi. On the 21st his urine was between two and three quarts daily, and the swelling of the belly was reduced. On the 25th the urine was very copious, and the swelling fast disappearing. On the 28th, as he complained of headach and oppression of the stomach, and had a white tongue and a quick pulse, a mild mercurial was again ordered, followed by a purgative draught, which relieved the headach, &c. On the 31st his pulse was 80, his urine copious, and the swelling of the belly was scarcely perceptible. The mercurial was discontinued on the 3d of November, when the gums were again slightly tender. After the 3d he had an occasional purga-

tive without any other medicine, and he was dismissed cured on the 20th of November.

This case was a striking instance of the transference of disease from the mucous to the serous membrane of the abdomen. The patient first laboured under dysentery. The dysentery was suddenly checked, and the cavity of the abdomen began to fill with fluid in consequence of an inflammatory excitement of the peritoneum. After the patient was admitted into the hospital there were four attacks of severe pain seated in that membrane, which were attended with tenderness of the parietes of the abdomen. These attacks, shewing an increase of the inflammatory affection, upon which the dropsical effusion depended, were followed by increase of bulk. The inflammation was subdued by topical applications and anodynes; and then, by making a considerable impression on the original seat of the disease, viz. the mucous membrane of the intestines, by means of the crystals of tartar and jalap, the dropsy quickly disappeared, and the patient recovered his health.

Ascites, after dysentery, is by no means uncommon. Dropsy, after continued fever, is also common; and, if I mistake not, is frequently connected with a translation of disease to the serous membranes. Anasarca, as well as dropsy of the cavities, seems to be connected with an inflammatory excitement of these

membranes. I this day (January 12th, 1817,) examined the body of a man, who, after he had apparently surmounted a very severe attack of continued fever, in which there was great derangement of the mucous membrane of the intestines, died, just as dropsy was beginning to manifest itself. Anasarca of the inferior extremities had taken place to a considerable extent, and an obscure fluctuation could be felt in the abdomen. Several pints of fluid were found in the cavity of the peritoneum. The solid viscera of the abdomen were sound, but the peritoneum was much diseased—it was inelastic, thickened and opake ; a condition always demonstrative of previous inflammation in a structure which, when inflamed, soon loses its redness ; and the mucous membrane of the stomach, and great intestines, still retained the stamp of disease. In such instances of dropsy, I apprehend that the distinction which the late Dr. Home formed between such remedies as are diuretics merely, and such as are antihydropics, will be deserving of attention. From the former little can be expected. The remedies which have a tendency to produce watery stools will be most likely to afford relief—as crystals of tartar, camboge, jalap, and elaterium ; these may be followed by alkaline bitters. The expectorating diuretics, such as squills, will be less likely to succeed.

It would be no difficult matter to shew the influence of interchanges of the morbid activity of the vessels, and consequent determinations of the fluids, of the mucous and serous membranes of the thorax,

Every one knows the relief that patients threatened with hydrothorax obtain when they begin to expectorate freely, as also the increase of distress, from increasing serous effusion, when expectoration is suddenly stopped. In many cases of hydrothorax, the best antihydropics are, first, such medicines as have a tendency to reduce increased action in the pleura, namely, digitalis, and occasionally bleeding. Secondly, such remedies as produce excess of action in the skin, as blisters; and thirdly, such diuretics as have also the power of increasing expectoration, as squills. It appears, from the observation of Quarin, that squill has been most successful in hydrothorax, while Dr. Home found crystals of tartar little to be relied upon in that disease. Indeed hydragogue purgatives are not always admissible in hydrothorax.

Translations of disease from the skin to the mucous membranes (repelled humours as they were called), and translations of disease from the mucous membranes to the surface of the body, (or humours driven outwards), have attracted the attention of physicians of all ages of the world; but it appears that very little attention has hitherto been paid to occurrences of perhaps equal moment, namely, translations of disease from the mucous to the serous membranes, and vice versa.

January 12th, 1817.

OF JAUNDICE,

UNACCOMPANIED WITH ANY DISCOVERABLE DISEASE OF THE

LIVER,

OR TURGESCENCE OR OBSTRUCTION OF THE

BILIARY DUCTS.

BY J. CHEYNE, M. D. &c.

ON the 15th of February, 1816, James Walsh, æt. 17 a native of Quebec, was admitted into the Hardwicke Hospital on the 9th of day of a fever. In addition to many symptoms which generally attend that disease, such as a quick pulse, great depression of strength, foul taste, and a loaded tongue, the skin and tunica adnata were of a deep yellow colour.—Eight leeches were directed to be applied to the region of the liver; a solution of the sulphate of magnesia in infusion of roses was given, and after the operation of the salts, a moderate quantity of wine was allowed. On the 16th, at the suggestion of one of my colleagues, the patient was ordered to take five grains of the mercurial pill every fourth

hour. On the 17th, after a restless night, during which he vomited a dark fluid, I found him in a state of low delirium, his pulse being slower and fuller than on the preceding day, and the urine and fæces flowing from him in bed; the fæces were dark, fetid, and mixed with mucus. On the 18th his eyes were sunk and glassy, his tongue was covered with black crust, he was incoherent, and his pulse was extremely rapid. He died on the morning of the 19th, at 5 o'clock.

Dissection.—The stomach, intestines, and liver, were apparently free from disease. The gall bladder contained a small quantity of light coloured bile, and the biliary ducts were unobstructed throughout their whole extent. The spleen was rather large. The kidneys were remarkably diseased—they were much enlarged; their outer surface was marbled, and on cutting into them, we could hardly distinguish a trace of their original structure. The ureters were rather contracted; the capacity of the bladder was diminished, its coats were thickened and the mucus membrane was diseased. A sound was introduced without any difficulty, into the bladder.

The fluid contained in the pericardium and pleura was yellow and viscid, but it was scarely increased in quantity.

There was an effusion of yellow serum between the arachnoid membrane and pia mater; the coagula in the longitudinal sinus partook of the yellow tinge.

The ventricles were considerably enlarged, and contained a yellow fluid to the amount of several ounces; their inner surface was spotted in a peculiar manner; the spots bore a strong resemblance to petechiæ. These spots were seated in the lining membrane of the ventricles. The brain was remarkably firm in its consistence.

It may be worthy of observation, that till within this last year a fever, which often had all the characters of typhus, was endemic, more especially in the latter end of winter and spring, in the wards of the House of Industry, from which this boy came.

If we are to retain typhus as a generic term for our most severe contagious fevers, this case may be counted a specimen of typhus icterodes. The term typhus icterodes, as applied by Sauvages and Cullen to the remittent of warm countries, carries with it a nosological impropriety; for if so applied, a species of fever which arises from the noxious influence of the soil, would be classed with those fevers which are produced by the fomites of contagion.

The continued fever which generally prevails in summer (Synochus biliosa vel gastrica) is not unfrequently attended with hepatic inflammation and congestion, and yellowness of the skin, but typhus attended with jaundice is a rare specimen of disease. In the course of the last eighteen months I have seen

only two specimens of typhus icterodes in at least fifteen hundred instances of fever.

The yellowness of the skin in the case of Walsh, did not take place in patches or spots similar to what is observable after Ecchymosis; the urine was of a deep yellow colour, and in the stools there was a sufficiency of bile; the eyes were of an orange colour; she suffusion was general and deep, as in confirmed jaundice.

If the opinion of the older writers be rejected, namely, that the jaundice may arise from the secretion of bile being suspended,—from the matter of the bile continuing in the blood, we have no means of explaining the icteric colour in this instance, but by assigning an extraordinary degree of activity to the absorbents which act upon the biliary pores; for there was no redundancy of bile in the liver or intestines—the ducts were pervious—in a word, no appearance of disease was discernible in the liver. Possibly there might have been an inflamed state of the mucous membrane of the stomach and duodenum. I examined the brain and the liver, but the stomach and intestines were not kept for my inspection. I am led to conjecture that there might have been a morbid condition of the inner surface of the stomach, 1st. From the appearance of the matter vomited by the patient, which had all the characters of a diseased secretion; and, 2dly, from the inner surface of the stomach being more generally affected than any other part of the body in the yellow fever of the

West Indies. In that disease some writers have taught, that the yellowness of the skin is a consequence of the interruption to the flow of the bile, caused by a spasm of that part of the duodenum which is perforated by the biliary duct, and this spasm they imagine is produced by the inflamed and irritated state of the mucous membrane of the intestine. Something may possibly be done by anatomy towards the elucidation of this very obscure subject: while the condition of the duodenum would require to be more carefully examined, the resemblance which typhus icterodes has to the form of jaundice, which sometimes arises after injuries of the head, or very violent emotions of the mind, will doubtless lead dissectors, in future, to pay particular attention to the condition of the brain.

I adopted the practice which was recommended by an experienced friend, and gave the patient mild mercurials and wine; indeed these were the remedies which I had unsuccessfully employed a few weeks before, in a case of the same disease, being suggested by what appeared a fair analogy. This method of treatment may be applicable to the icteroid form of synochus, bleeding being premised, but its applicability to the form of typhus under review, is at least questionable. Were another case of this disease to occur to me, in the present imperfect state of my knowledge with respect to its pathology, I would, as long as possible, abstain from wine. I should be inclined to apply blisters to the nucha and scalp, to foment the belly and legs, and perhaps endeavour to promote

the flow of the bile by means of a combination of Dover's powder and calomel.

I shall now avail myself of this opportunity of protesting against a rule of practice, in these countries, which seems to have been established without sufficient consideration, namely, that a mercurial course ought to be instituted as soon as jaundice, from a diseased state of the liver, shall appear. Jaundice, it is well known, is often symptomatic of an inflamed liver, and disappears when the inflammation is subdued by means of blood-letting, leeches, blisters, and saline purgatives; in such cases, mercurials, I conceive, are indicated only when the secretion of bile cannot be restored without their aid. Mercurials probably always aggravate the symptoms of hepatic irritation, unless when they promote the flow of the bile. In this way they prove quickly destructive to persons advanced in life, with the leaden complexion which arises from what are usually called scirrhous livers,—livers which may be irritated by mercury, but over which mercury no longer possesses any influence in encouraging secretion.

It does not appear to be generally known, that mercurials actually produce the jaundice; yet this is a fact, of which, in the course of the last two years, I have seen three striking examples. The first was a case of jaundice in a young man, who had just concluded a mercurial course for chancres. The jaundice disappeared in a few days, under a course of bitter purgatives.—The second was a si-

milar case, but more severe: the patient was an officer in the army, who had recently obtained his commission, after a severe course of study, at one of the military academies in England. Just before he came to Ireland he was mercurialized for chancres. Upon his arrival in Dublin he complained of a pain in the acromion scapulæ; but as his appetite was unusually keen, neither he nor his friends paid particular attention to it; then his appetite failed entirely, and he soon became as yellow as a lemon. On the 13th of January his urine became very dark and obscurely red, his stools colourless, his tongue coated with white curdy mucus; he laboured under dejection of spirits, debility, thirst and complete anorexia, and pressure of the left lobe of the liver produced sickness at stomach. On the 21st, after the application of leeches and blisters, and the use of soda and taraxacum, together with an antiphlogistic regimen, some bile appeared in his stools. On the 24th, the pain in the epigastrium being nearly subdued, a bolus, containing six grains of the blue pill and one grain of squills, was given at bed-time, and the tepid bath was recommended. On the 14th of February my attendance terminated. He was recommended to refrain from wine, to attend to his bowels, to be abstinent of food, and to take an ounce of the expressed juice of taraxacum three times a day during the early part of summer, and he had no return of the jaundice. Such, however, is the force of opinion in favour of mercurials in jaundice, that I found it, in this case, difficult to withhold the mercurial so long as I did.—The third case of jaundice,

after mercury, was that of a young gentleman, who being threatened with a disease of the brain, was gently salivated, after which he had symptoms of consumption, and became jaundiced.

In large establishments for the cure of venereal complaints, jaundice not unfrequently appears during courses of mercury; and if the mercurial is not laid aside, and purgatives given, and the antiphlogistic regimen adopted, a new and alarming series of symptoms is apt to arise; the brain becomes affected: the patient becomes at first frantic, and then he falls into a state of coma. Three cases of this kind have been related to me by competent observers. Happening lately to be in consultation with my friend Mr. Hewson, and hearing from him that a female with jaundice had died in one of his wards in the Lock Hospital, on the day before, I requested he would permit me to be present at the dissection of the body, which he obligingly consented to; and he also procured me the particulars of the case, with which I shall conclude this communication.

Lock Hospital, August 23, 1816. Sarah Armstrong, æt. 26. Has numerous subcutaneous tumors in different parts of her body, particularly about the arms, legs, and back; they are hard, flat, and about the size of half a walnut, and painful when pressed. She has night pains of the limbs, and painful enlargements about the wrists and elbows. She is confined to bed in consequence of extreme weakness and emaciation. She had chancres nine months

ago, which were healed by a few pills, which made her mouth slightly sore; she has been in the house six months, during which time she has been treated as a pseudo-syphilitic patient. Mercurial frictions, decoction of sarsaparilla and bark, were ordered; a few rubbings excited severe ptyalism, and her mouth was so susceptible of the mercurial action, that thirteen weeks were occupied before six ounces of mercurial ointment could be used, at the end of which period she appeared convalescent, every symptom disappeared, and she gradually regained her strength.

In the month of February 1817, she began to complain of pains about the knees, elbows, and wrists; a tendency to enlargement of these parts was observed, and she again lost flesh. The frictions were renewed, and a pretty smart ptyalism was established.

March 13th. She has for days felt much oppressed, has had nausea, vomiting, and loss of appetite, and she is jaundiced all over; her stools are without bile, the soreness of her mouth has nearly subsided. Ordered an electuary of creme of tartar and jalap.

March 18th. Last night, after supper, during which she appeared well and chearful, she was seized with violent shrieking, tossing of her head, tearing her hair and bedclothes, and striking of every one about her; she then made efforts to vomit, and finally discharged from her stomach what appeared to be blood. She was speechless, and continued in whatever position she was placed; pulse 60, small and compressible, breathing slow and stertorous, with

frothing at the mouth; eyes distorted and fixed; pupils dilated.

She expired on Thursday the 20th of March.

Dissection.—There was a deep yellow tinge over the whole body. The dura mater was of a yellow colour; the veins on the surface of the brain were turgid, and the capillary vessels were distended with blood, to their minutest ramifications. There was some effusion of serum between the tunica arachnoides and pia mater, at the spaces of the convolutions. The substance of the brain, unaltered in colour, was firm, its sections were studded with numerous spots of blood; the ventricles contained about two drachms of fluid, of a deep yellow colour; the right choroid plexus involved some small portions of a white gritty substance; a little behind the velum interpositum, and before the pineal gland, lay a pretty large hydatid, which also contained grains of a sandy substance, as large as millet seeds, and nearly transparent. About the base of the brain the membranes shewed a still greater vascularity, particularly about the pons varolii, where some spots of ecchymosis were observed, and a thickened and vascular state of the membrane covering the cerebellum.

The viscera of the abdomen were free from any remarkable morbid appearance. The liver was small, its convex surface was mottled, and of a pale red colour; its concave surface of an uniform dark purple, was connected with the duodenum by an extensive

membranous adhesion, apparently of long standing; the gall bladder was flaccid, and contained mucus slightly tinged with bile; the ducts leading to the duodenum were pervious and empty; their ramifications into the liver were pursued without discovering any appearance either of mucus or bile; the stomach was thickened in all its coats; its serous membrane was opaque; a tenacious mucus adhered to the inner surface of the stomach, which had a granulated or slightly warty appearance; the stomach contained a coffee-coloured fluid; the mucous membrane of the duodenum was vascular, with spots of ecchymosis in various parts; this intestine also contained a coffee-coloured viscid fluid; the large intestines were filled with hardened and knotted fæces; the bladder contained about a pint of deep yellow urine.

25th March, 1817.

ON THE CAUSE OF THE DISEASE

TERMED

TRISMUS NASCENTIUM.

BY A. COLLES, M. D.

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AMONG the various conjectures which have been offered, to explain the cause of Trismus Nascentium, we occasionally find it ascribed to injuries of the umbilical chord—to irritability of the general system, combined with an inflamed or ulcerated state of the chord and navel. But I am not aware that any satisfactory proofs have been adduced in support of this opinion, however plausible.

The following considerations induced me to seek, by dissection, for the cause of this disease in the umbilical chord and fossa. First, the symptoms of the disease in infants closely resembles those of the trismus traumaticus of adults. Next we observe the occurrence of trismus nascentium to be confined to the periods of the separation of the chord, and the healing of the surface from which it is detached; as we

observe the trismus traumaticus of adults to occur generally in the sloughing stage of the wound; sometimes when the wound has advanced much further to cicatrization; and very rarely, if ever, do we find either disease coming on after the ulcerated parts are perfectly healed. Another striking correspondence between these diseases is, that in general the most severe and rapidly fatal cases of each take place before the fifth day from the date of the wound or the birth of the child; and that those cases which occur when the surfaces have made considerable advancement towards healing, are very mild in their symptoms, and very slow in their progress.

Urged by these considerations, five years ago I first made a careful dissection of the umbilicus of a child which had died of locked jaw, and I have every year since dissected from three to six subjects, who had fallen victims to this disease. Twelve months ago I communicated to Mr. C. Johnston, one of the assistants of the Lying-in-Hospital here, the result of these investigations, since which period I have dissected three cases in conjunction with him; and, at the same time, we compared the appearances with the corresponding parts in infants which had died of other diseases. The following brief description comprizes an account of those appearances, which were very much alike in all cases, differing only in degree.

The skin forming the edges of the umbilical fossa, was in some, a little more raised than usual. When the borders of this hollow were expanded by

introducing a pair of dissecting forceps, we observed the floor of this cavity not flat, but considerably raised in the centre by a knob or large papilla; both the central raised part, and the surrounding flat parts of this surface, presented all the characters of those new membranes which are formed by suppurative inflammation. In some few instances the fundus of this cavity presented evident marks of superficial ulceration, confined to the vicinity of the umbilical vein. A probe readily passed through the substance of this central tubercle, and entered into the umbilical vein: such were the appearances presented by the umbilical fossa externally.

On cutting into the abdomen, the peritoneum covering the umbilical vein was highly vascular, as if from inflammation; this extended sometimes up to the fissure of the liver; often, however, not for a greater length than one inch above the umbilicus. The peritoneum, in the course of the umbilical arteries, appeared still more inflamed, an appearance which extended often as far as the sides of the bladder. Besides the appearance of the peritoneum along their posterior surface, the cellular substance which covered them, and the urachus anteriorly, was loaded with a yellow watery fluid, even down to the bladder. Leaving the umbilicus untouched, if we cut open the umbilical vein, from the liver to the vicinity of the umbilicus, we found only a few small coagula of blood within its canal; the inner surface of the vein was pale, and free from any marks of inflammation, yet the coats of the vein altogether were very much

thickened. The umbilical arteries exhibited evident marks of inflammation. 1st, On slitting them up, a thick yellow fluid, resembling coagulable lymph, was found within their coats. 2dly, In all instances their coats were much thickened and hardened, even as far as the fundus of the bladder.

On cutting into the umbilicus itself from its posterior or peritoneal surface, we found in the centre a space, about half an inch long, occupied by a soft yellow substance, which bore a very strong resemblance to coagulable lymph, produced by inflammation; it was this which formed the prominence observed in the external view of the fossa. The extent of this middle space varied in different cases, but in every instance the arteries opened into it, or rather were lost upon it.

In a few instances the umbilical arteries presented this appearance, or rather were converted into this substance, to the distance of a quarter of an inch from the navel. The extremity of the umbilical vein was affected in different degrees in various instances. In some it presented a pouch or varix, which extended one eighth of an inch below the extremity of the opening of the vein, viz. in a direction towards the bladder. In some, the extremity of the vein presented an appearance of ulceration on its margins; and in all, the edges of the extremity of the of the veins were thickened. In every instance the ends of all these vessels remained open; their canals were in continuity with the soft substance which oc-

cupied the centre of the umbilical space, so that a small probe or bristle passed without opposition from these vessels into this soft substance.

In no instance was any mark of inflammation discovered in the right auricle or other cavities of the heart.

The state of the umbilicus and its vessels, here described, having been found in all the cases I have inspected, and these appearances not being discoverable in infants of the same age which had died of other diseases,—is it not a fair inference that such is the cause of Trismus Nascentium? This opinion will appear well founded, when we recollect that the Trismus Traumaticus of adults is also generally connected with the sloughing or detaching process of wounds. These two forms of Trismus still further correspond; for we find that in each of them, instances are to be met with in which the disease is very violent and very rapid in its progress to a fatal termination; and these are cases where the symptoms set in very early after the infliction of a wound, or very quickly after the birth of the child. With the nurses of our Lying-in-Hospital, these cases of infants are denominated black fits. The more ordinary form of trismus nascentium resembles the usual form of trismus in adults, and is by the nurses termed white fits. It is worthy of remark, that the infants which generally fell a sacrifice to this disease were strong and large; their bodies appeared plump and well nourished; nor

could any other mark of disease be discovered in the thoracic or abdominal viscera.

While I attempt to establish a morbid inflammation and ulceration of the umbilicus as the immediate cause of this disease, I by no means would object to the opinion, that it is connected with a state of the atmosphere more or less vitiated. For whoever will refer to an essay on this subject by Dr. Joseph Clark, inserted in the third volume of the Transactions Royal Irish Academy, must be convinced that such a cause does contribute to its production. I think, however, that it operates only as a remote cause, by inducing an unhealthy or unkindly form of inflammation and ulceration; and hence it is that this disease is so much more frequently met with in the children born in Lying-in-Hospitals, than in those born in private houses.

Does this discovery of the exciting cause of trismus nascentium lead us to any mode of prevention or of cure? In addition to ventilation or purifying the air, the only method of relief which has yet been tried, is that of dressing the umbilicus with spiritus terebinthinæ after the child is seized with the spasms. This, however, has proved absolutely ineffectual; nor will the failure surprise any one who considers that no benefit is derived in trismus traumaticus, from any particular mode of treating the wound, after the disease is established. I have lately learned, however, from a lady who lived in Jamaica for many years, and had a number of negroes on her

estate, that this disease, which had formerly carried off a very great proportion of the infants of negroes, is now scarcely to be met with; and that the means of prevention which they adopted, were to plunge the infant into a cold bath daily, for the first nine days, and daily to dress the umbilical chord with spirits of turpentine. This account has been further confirmed by the report of a medical practitioner from that Island, who, while viewing the Lying-in-Hospital, made precisely a similar communication to Mr. C. Johnston.

I beg leave to submit the following queries to the consideration of those engaged in the practice of midwifery: Will any advantage attend the dressing the umbilicus with spiritus terebinthinæ, from the birth of the infant? Ought not this mode of dressing to be universally adopted? Can the umbilical chord be tied close to the abdomen, at a part which is covered with skin? Would tying it in this place produce a more active and healthy inflammation, by which the formidable disease of trismus might be prevented in infants; and by which a more firm cicatrix would be established, and thus the number of instances of umbilical hernia in adults would be diminished?

CASE OF DROPSY,

BY CONVERSION OF DISEASE,

FROM THE SKIN TO THE SEROUS AND CELLULAR MEMBRANE.

By EDW. PERCIVAL, M. B. Cantab. & Dub.

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THE following Case illustrates some obscure points relating to the conversion of diseases, and the inflammatory origin of Dropsy. It occurred in the Hardwicke Hospital of the House of Industry, four years ago; and forcibly turned my attention to the diathesis which attends the morbid sequelæ of continued fevers,—and to a source of serous effusion, from metastasis of inflamed surfaces, which, though not noticed by medical writers, appears to have obtained too little regard in general practice.

Jane Corcoran, a servant, about twenty-five years of age, having become convalescent from fever, relapsed with symptoms of unusual debility, yet without local pain or distress. Her pulse was frequent and feeble; and her skin was soon covered with a red papular eruption. As she had been infected with itch, previous to her admission into the hospital,

many pustules, especially on the extremities, assumed the worst form of scabies purulenta. By the use of aperients, a blister, and a small allowance of wine, she again recruited her strength, sufficiently to leave the fever wards, and be transferred to the chronic hospital, where she derived benefit from an electuary of sulphur and crystals of tartar. But her pulse remaining frequent and feeble, and her general powers languid, I intermitted this remedy, for some light tonic medicines. Two days afterwards, she became suddenly bloated to a surprizing degree; her belly, limbs and face being so much swelled, that I could not recognize her features or general appearance. Her respiration was short and oppressed; her tongue thinly coated with mucus; and her pulse weak and wavering, exceeding 130 strokes in the minute. On examining the eruption on her skin, I found that its florid hue had nearly disappeared; the smaller papulæ seemed to have vanished, and the scabious pustules were dry and shrunk. The integuments, however, had not yet lost their elasticity; the cellular structure felt puffy, but did not leave a mark of indentation on pressure. Enquiring into the state of her bowels, I found that the suspension of the purgative electuary had been followed by constipation; I therefore directed some pills of calomel and scammony, to be taken until full purging was produced, and a blistering plaister to be laid on the abdomen; advising broth for her nourishment, and, at her own request, a pint of porter in the day.

Two days afterwards, she exhibited all the symp-

toms of universal dropsy. She could not bear a supine posture; her breathing was scanty and laborious; her voice hoarse; her pulse rapid and embarrassed; her belly tense, with manifest fluctuation; and her limbs œdematous. But what chiefly surprized me was the disappearance of the papulæ, the sores, and their crusts, in a degree which I should have thought incredible, within so short a space of time.

I directed for her, moderate doses of the tincture of digitalis in the compound infusion of gentian; with a bolus of jalap and crystals of tartar, to be taken every night. Under this regimen, her face and limbs subsided to nearly their former state, and her belly was much reduced. Having laid aside the porter, she took daily from half a pint to a pint of weak gin punch. But her strength declined, her pulse continued frequent and small, orthopnœa returned, and she at length died, about a fortnight after the first appearance of anasarca.

Dissection. On opening the thorax, much fluid was found in its cavity. The pleura exhibited a general hue of inflammation, but no coagula appeared. The right lung was adherent to the pleura-costalis, and unusually dense in its structure, the air cells in many parts being obliterated. The left lung was inflamed on its surface, but otherwise sound. The heart was somewhat larger and softer than is natural; and the pericardium was occupied with fluid. On laying open the abdomen, the intestines, which were distended

with air, exhibited an extraordinary appearance, being studded with livid spots of various dimensions from the size of a pea to that of a shilling. Some patches of this kind appeared also on the peritonœal covering of the mesentery; and a gritty substance as large as a bean was found in this organ near the margin of the intestine. The serous membrane, lining the whole cavity as well as the viscera, was more or less inflamed. Three or four pints of fluid were collected in the abdomen. The spleen, pancreas, and liver, were large, soft in their texture, and shewed the common signs of recent congestion. The coats of the gall bladder were considerably thickened.—The vessels of the brain were somewhat turgid, and the capillaries of the pia mater præternaturally florid. The effusion in the ventricles was inconsiderable.

On reviewing this Case, with the light of posthumous information, some interesting points both of pathology and practice offer themselves to notice.—The sudden and copious eruption of papulæ, which attended the relapse of fever, evinced an inflammatory effort of considerable activity; although the pulse and other circumstances of the patient betrayed no corresponding indications. So long as purgatives were employed, the patient amended. But the suspension of catharsis for two days only was the prelude of a new disease, whose invasion was at once sudden and violent. The vicarious relief of discharge from the mucous and glandular organs being obstructed, the serous and cellular tissue assum-

ed the process of inflammation, which was followed by effusion into every cavity lined by those membranes.*

The connection between this and the antecedent disease was proved, by the decline of the cutaneous eruption at that critical juncture, and by the remarkable translation of the exanthematous appearances of the skin, to the peritonœal surface of the intestines.

The character of the peritonœal inflammation proved to be of a severer kind than I at first apprehended. The pulse was a fallacious guide, and the extreme debility of the patient gave no encouragement to the use of the lancet. I therefore relied

* Two circumstances specified by Dr. Wells, in his "Observations on the Dropsy which succeeds Scarlet Fever," were verified also in this case. "Contrary to what might be expected (says that intelligent writer) the dropsy often comes on after a very mild fever, and when the person who had suffered it appears to have nearly or altogether recovered his former health." And in another place, "This species of dropsy is preceded several days, perhaps always, by languor and peevishness, and most commonly by a *costive* state of the bowels."—With respect to another circumstance noticed by Dr. Wells, viz "That the swelling constantly begins in the face," I cannot affirm that this happened in the case of Corcoran, as my notes do not record it. But that the face was largely tumefied, before œdema was perceptible in the limbs, I have already stated.—This circumstance of analogy between two febrile diseases, attended with very different exanthemata, appeared worthy of notice; and has afforded me the satisfaction of quoting the observations of a very ingenious physician. See III. vol. of the "Transactions of a Society for the Improvement of Medical and Chirurgical Knowledge." Art. XV.

on purgatives to evacutate, and re-excite the inner surface of the intestines, and applied a blister with the view of recalling cutaneous inflammation. The latter measure failed of its intention; and the former, though it served to discharge the dropsical effusion, did not succeed in removing its cause. Whether, in this formidable case, active venæsection, at the period of the metastasis, might have saved the patient's life, I shall not presume to determine; but I am so far from desiring to vindicate the omission of this remedy, that I consider the chief practical instruction to be derived from the preceding history and dissection, is to inculcate the expediency of blood-letting in all similar cases. A cure may not indeed be always effected; but where a fatal issue may be expected from omitting this depletion, the experiment, I conceive, should be hazarded, even in extreme circumstances.

The inflammation of the intestines, in this case, was not merely erythematous, or confined to the diaphanous membrane, but penetrated the cellular structure, as appeared evidently in the parts occupied by livid patches; preserving, in this particular, a curious analogy with the morbid condition of the skin, where superficial papulæ were interspersed with ulcerating pustules. In like manner the inflammation of the glandular viscera was not confined to their peritonœal covering, but pervaded their substance, and produced a degree of congestion which was incompatible with the functions of life.

The similar nature of the cellular and serous tissue may explain their simultaneous tendency to effusion.—A case of sudden distension of the former structure, connected with inflammation of the pleura, occurred to me a few weeks ago. The patient was a young and robust female, who had an attack of well marked pleurisy, which subsided by venæsection and blisters, without expectoration. Venturing to walk out on a cold day, she was suddenly seized with a pain at the pit of her stomach, followed by vomiting and very troublesome retching. She had also much difficulty in breathing, and a pain in her left side, as formerly. The integuments of her whole body swelled, but without pitting or pressure. She was bled copiously twice on that day, and to nearly an equal amount on the day following. The pain and retching were removed, but the general swelling remained, and in the lower extremities soon shewed the usual signs of oedema: ascites did not appear in this case; and the anasarcous swellings subsided by the use of crystals of tartar. The patient is now convalescent.

HISTORY

OF A

WOUND IN THE NECK,

IN WHICH THE OPERATION OF

TYING THE COMMON CAROTID ARTERY

WAS PERFORMED WITH SUCCESS.

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A GENTLEMAN, aged thirty-five, of a strong robust make, received, on the 7th of June, 1817, several wounds in his neck, from a small blunt-pointed penknife. They were all unimportant but one. This was a punctured wound on the right side, an inch and a quarter below the angle of the jaw, and a little anterior to the edge of the sterno mastoid muscle. It passed backwards and outwards, with a slight degree of obliquity, nearly two inches, precisely in the direction of the common carotid artery, and its greatest extent was in the transverse direction. From this wound there was a copious arterial hemorrhage, which was stopped instantaneously by a medical gentleman, who placed his finger upon the ori-

fice, but not before the patient had lost several ounces of blood. A short time afterwards I saw him, and conceiving from the situation of the wound, quantity of blood lost, and celerity with which it had flowed, that either the carotid artery or some of its large branches had been wounded, I prepared to cut down upon, and tie the injured vessel. When all was ready the finger was removed, and, contrary to my expectations, the hemorrhage had entirely ceased; nor could it be reproduced at that time, although I attempted to excite it by applying a warm sponge, &c. The wound, therefore, having been closed by adhesive plaster, the patient was put to bed, enjoined quiet and a low regimen, and directed to take a purgative next morning.

For several days he improved progressively under the administration of occasional purgatives and diaphoretics. From the puncture there was a considerable purulent discharge, rendering daily dressing necessary until the 13th, when it moderated, and on the 14th there was so little as not to require the dressings to be changed. On the evening of that day, however, about 9 o'clock, and while he was asleep, a sudden and profuse hemorrhage took place from the wound. He was awakened by feeling the blood trickle down his neck, but before assistance could be procured he had lost a considerable quantity. I saw him almost immediately, and as the bandages and shirt, and the bed even, were wet with blood, I bared the neck as quickly as possible, and discovered arterial blood flowing per saltum, in a

large stream, from the wound. Its farther issue was, for the time, prevented by the finger applied on the puncture.

It was evident that a vessel of considerable size had been originally wounded; I thought it, however, extremely improbable that this vessel should be the carotid artery, from the facility with which the bleeding had been stopped in the first instance, and also from the secondary hemorrhage on the present occasion having taken place at the full period of a week from the date of the wound.

To secure the vessel by ligature I considered indispensable.

For this purpose it became necessary to enlarge the wound, which I did by introducing a director into it, and dividing the integuments upwards for the extent of an inch, in the course of a sinus which had formed beneath them. I then removed a coagulum which occupied the bottom of the original puncture, expecting to find the injured vessel. A most alarming hemorrhage of arterial blood immediately succeeded. The immense velocity with which it flowed, as well as the magnitude of the stream, which nearly equalled the bulk of the little finger, convinced me that the common carotid artery had been wounded. The finger was again placed on the orifice, and with the same effect as before the enlargement of the wound.

The situation of the patient had become most critical; there was an absolute certainty of his perishing in a few minutes unless the flow of blood could be restrained, and I had enlarged the external wound too much to render even temporary compression efficacious. Besides, even if it were applied, hemorrhage might recur, and at a moment when no other assistance than my own was at hand. Added to these considerations was the strong probability of the artery requiring to be tied in the end. I resolved, therefore, notwithstanding the disadvantage of candle light, to proceed at once to the operation, which was accordingly performed at half past ten o'clock P. M. in presence of Messrs. Jackson, Lynch, Timmon, &c. in the following manner:

The patient being placed in a chair, his head was turned towards the left shoulder, and reclined upon the breast of an assistant. By this posture the right sterno-mastoid muscle was put upon the stretch, and served as a guide for the incision. The wound was then enlarged by dividing the integuments and platysma myoides for the extent of two inches obliquely downwards and inwards, along the anterior edge of the muscle. Its fibres were then exposed, and likewise the belly of the omo hyoideus, and as I designed to tie the artery at some distance below the puncture, the parts in its immediate vicinity having become much thickened and indurated, the omo hyoideus was cut across and turned aside.

With the handle of the knife, I next separated

the muscles from the sheath of the vessels, which having been exposed for a sufficient extent, was opened by raising a small portion of it with the forceps, and then cutting it transversely. A director was introduced at the opening, and the sheath divided both upwards and downwards.

The nervus vagus and artery were now distinctly seen. The internal jugular vein being covered by the portion of sheath interposed between it and the artery, did not appear, nor was it a source of the slightest inconvenience during the operation.

The finger of an assistant, which had hitherto been kept upon the wound in the artery, was now taken away, and on the removal of a small coagulum the hemorrhage recurred as before, but was stopped by pressing the artery against the transverse processes of the vertebræ. The finger being again applied, the artery was freed by the edge of the knife from its surrounding connexions, for a sufficient extent to admit a bent silver probe, armed with a double thread ligature beneath it; and the ligature having been brought down as low as the termination inferiorly of the detached portion of the artery, was tied firmly with a double surgeon's knot. At the moment of applying the ligature, no particular pain or uneasiness were experienced, but some of the smaller arteries on the outside of the neck were seen to throb violently.

On removing the finger and sponging the orifice, the bleeding recurred even more profusely than be-

fore. It was stopped by re-applying the finger for a short time, nor did it again return.

As this continued hemorrhage could proceed only from anastomotic communication, and would probably cease when the blood had congulated in the tied carotid; as from the thickened state of the points surrounding the puncture it would be extremely difficult, if not impossible to apply a ligature above it; and as in the efforts to do so, there would be a risk of wounding some of the branches of the external carotid, it was resolved to close the wound, and wait the event. Its edges were therefore closely brought together by adhesive plaster, over which were applied simple dressings, and a firm compress and bandage. The patient was then put to bed, and directed to lie on his left side, with the head raised.

The operation, which was tedious, was borne well by the patient. He lost little blood, but was very languid at its conclusion. When in bed his pulse was 80, weak. The temporal and frontal arteries on the right side throbbed violently.

15th 11 o'clock, A. M.—His sleep was sound during the night, though somewhat interrupted by occasional starting. He complained of slight headach, and of a good deal of soreness of the throat. Pulse 100, moderate, skin hot, tongue moist.

Habt. Haust. Purg. statim.

Nine o'clock, P. M.—His bowels were very loose, soreness of throat increased, and he felt "as if it would close." Considerable difficulty and pain in swallowing. Eyes suffused, countenance flushed, pain in the back of the head. Pulse 120, full and strong; skin hot.

Fiat Venesectio e brachio statim.
Habt. Haust. Sal. Efferv. 2dis horis.

16th, 2 o'clock, P. M.—Thirty-five ounces of blood were taken from his left arm in a full stream, before much effect was produced in the pulse; it then became soft, and somewhat weak; at the same time he had several stools in succession, followed by cold perspiration, great weakness of pulse, and tendency to deliquium. On recovering from these symptoms he confessed himself much relieved, particularly about his throat, and slept well during the night. The blood drawn was buffy and cupped in all the vessels; he felt lighter and easier, swallowed better, and had less soreness of throat. Puse 100, soft, and rather weak; skin more cool.

Mist. Sal. Diaph. 2dis hor. Cont. M. Efferv.

Ten o'clock, P. M.—Two motions. Took some orange and panada; had been tolerably easy, and slept some. Felt his throat not quite so well as in the morning, and swallowed with some pain. There had been a trifling discharge from the wound. Pulse 100, soft; skin cool, disliked swallowing.

Rept. Mist. Purg. c. m. Cont. cætera.

17th. Slept little during the night, but not from any particular uneasiness. Five motions. Had taken wine whey and barley gruel. A good deal of reddish discharge through the dressings. Swallowed better than he had done since the operation. Complained of a dull sensation in the right ear, but of no headach or giddiness. Pulsation in the trunk of the right temporal artery, scarcely perceptible. No pulsation in the right labial. Wound looked well. The greater portion (particularly superiorly) had united by the first intention. The discharge was moderate and good, scarcely any surroundiug tumefaction. No external inflammation.

Contr. omnia.

18th. No motion during the night, but slept well. A slight discharge through the dressings. Swallowed nearly without any inconvenience, and had very trifling soreness of his throat. Pulse 76, soft and rather weak. Tongue clean. Very slight uneasiness in his head on wakening. Pain in the ear gone.

Rep. Mist. Purg. c. m. ad effect. Cont. cætera. Flummery to dinner.

19th. Relished his flummery, and slept well. Swallowed without the least uneasiness, and complained only of slight soreness in the wound. Considerable discharge of good pus, particularly in the

neighbourhood of the ligature, which lengthens. Pulse 80, soft and weak. Tongue clean.

Contr. omnia.

21st. Bowels loose. Last night had some stiffness of throat and difficulty of swallowing, with acceleration of pulse. These symptoms are to day removed.

23. There being some discharge from the original puncture yesterday, compression was applied to it. Lies on his right side without inconvenience. This day, on getting up had some vertigo, which subsided before he was dressed. Pulse 100, weak. Wound heals.

Contr. omnia.

25th. Had a return of vertigo yesterday, with a disposition to syncope on getting out of bed, which was prevented only by laying him horizontally. To day is quite free from both. Pulsation not perceptible in the temporal or facial arteries on the right side. The ligature came away with a small portion of the artery attached. Pulse 90. Belly bound.

Hab. Pil. Purg. p. r. n. Omittr. Mist. Efferv. et Mist. Diaph.

From this period he continued to go on well. His

bowels were kept open, and he was allowed animal food in moderation. His pulse was seldom above 90. He rapidly recovered sleep, strength, and appetite. On the 28th of June he walked out without the least inconvenience. The original puncture was quite healed on the 7th of July, but the entire wound was not cicatrized till the 21st. The place where the ligature had been, was particularly slow in recovering, requiring the daily use of gentle escharotics. On the 14th there was some pulsation in the temporal and labial arteries; this was increased on the 21st. Some pulsation above and below the cicatrix of the wound was also perceptible. At this period he ceased to be under my care. He complained of a slight numbness of the right side of his jaw, but in other respects seemed in perfect health.

Navan, August 1st, 1817.

A CASE OF

RUPTURED INTESTINE.

BY CHARLES H. TODD,

MEMBER OF THE ROYAL COLLEGE OF SURGEONS, &c.

ON the twelfth of January last, at four o'clock in the afternoon, a strong robust boy, aged two years, was brought to the Richmond Surgical Hospital. He appeared in excruciating torture, had incessant retching, discharging from the stomach small quantities of mucus only; his belly was much swelled, and the slightest pressure upon it produced severe pain. His mother stated, that she had been obliged to go out on business at one o'clock, and had left the child in perfect health, in the care of an elder sister; that on her return home at two o'clock, she found him in the state he then was, and that she was informed by her daughter, that the boy had fallen from a chair, and was instantly seized with violent pain of the belly and vomiting, but threw up very little, although he had been largely fed by his mother before she went out.

The symptoms with which the boy was affected appeared to the apothecary of the hospital to resemble such as usually arise from a metallic poison, and

under this impression he immediately administered an active emetic, which aggravated the child's sufferings by increasing the retching. A large dose of calomel was next given him; glysters, blood-letting, the warm bath, and fomentations, were employed without any benefit, and the boy died in the course of the evening.

On the following morning I examined the body. The abdomen was enormously swelled, tense and tympanitic; on puncturing the peritoneum a great quantity of gas escaped, and more than a quart of fluid, which seemed to consist chiefly of broth, was contained in the cavity of the abdomen. The peritoneum exhibited the usual appearances of active inflammation; the minute vessels of that portion of it which lines the parietes of the abdomen, were remarkably turgid. The stomach and small intestines were quite empty and contracted; the colon was unequally inflated, and some solid feculent matter was felt in the cœcum.

On examining the small intestine, at the part where it escapes from behind the great mesenteric vessels, the upper extremity of the jejunum was found completely torn off from the duodenum, the ends of the ruptured intestine were separated from each other for nearly an inch, and the mucous membrane everted for some space on both parts. A small quantity of blood was extravasated between the layers of the mesentery, and also between the peritoneal and muscular coats of the transverse portion of the co-

lon ; the mucous membrane of the alimentary canal was uniformly healthy, and the glandular viscera were perfectly sound.

As this appears to me to have been an uncommon instance of ruptured intestine, the recital of the case may not be uninteresting to the pathologist, although perhaps not very instructive in a practical point of view. At first I was inclined to believe that the laceration of the intestine was secondary, and was probably occasioned by the violent exertions made in vomiting. However, on consideration, I think it more likely that it was the immediate consequence of the fall. At the time the accident occurred, the boy's stomach, and probably the duodenum, were distended with food ; and as the lower extremity of the duodenum experiences, from the relation it bears to the aorta and great mesenteric vessels, a degree of constriction sufficient to retard the passage of its contents into the jejunum, I can very well conceive, that if one intestine were full and the other empty, a blow on the epigastric region, or any other sudden violence exerted on the parts so situated, might have the effect of tearing those intestines asunder.

ON THE VIRTUES OF

JAMES'S POWDER

IN THE

APOPLECTIC DIATHESIS.

BY J. CHEYNE, M. D. &c.

" IN the year 1786, in the month of July, the Rev. ——— ——— was attacked with a fit of the Apoplexy. The method taken by a neighbouring physician on that occasion was to place his feet in warm water, and to give him an aperient medicine; this gave him relief for the present. In the beginning of September following he had a similar attack, and a physician attended him who ordered his feet to be bathed in warm water, gave him an emetic, and afterwards an aperient medicine, which he conceived would enable him to undertake a long journey, which he had to perform; but in a few days after, on his journey, he was seized at Chester with a more formidable attack than any of the preceding ones. A physician who attended him thought it necessary first to bleed him in the arm. He then

cupped him; then applied leeches to his temples, gave him aperient medicines, and lastly put an issue in the back of his neck. All these operations were performed in the course of twenty-four hours. As soon as he arrived in Ireland, in the latter end of October following, he had another slight attack, when he called in medical aid again, and he was ordered to put a blister on the crown of his head; this produced a most copious discharge, and aperient medicines were added; and this treatment was continued for five or six weeks, during which time slight fits returned every two or three days. The application of the blister was found necessary every ten days or fortnight at farthest. It appeared, in Mr. ———'s case, that a strict attention to diet was of the first consequence; he lived chiefly on chicken and white meats, but whenever he ate fish or drank malt liquor, he never failed to have a slight attack of the apoplexy after it. Finding that these remedies did not conquer the disease, which became more and more frequent, he was induced, at the instance of a friend who had heard a particular account of its efficacy,* to try the effect of James's powder. He began by taking a grain, and gradually increased the quantity, till after taking it for nearly six months, it amounted to nearly twenty grains. That quantity was taken for at least six months more, without one night's intermission, and by his own account, it passed off without any other effect than increasing

* From a female relative who had been cured of the same disorder by means of James's powder, who is now living and in good health, though upwards of fourscore."

insensible perspiration and urine. He then lessened the quantity gradually, until he ceased to take any except at remote intervals, when he felt any fulness of his head; but ever since he began to take James's powder he has not had a single fit." E. S.

Aug. 2, 1811.

In addition to the foregoing case, which was written at the request of my friend, Mr. Crampton, by a female relative of the patient, I have only to add, that he was a man of a sanguine temperament, with a short neck, and that he died in the year 1816, in his 90th or 91st year, in consequence, as I believe, of a disease of the urinary organs.

Since this case came into my possession, I have been led to make a good many clinical experiments, which have enabled me to verify the reports which I had heard of the efficacy of James's powder, in sometimes removing the apoplectic diathesis in persons advanced in life. It is moreover worthy of observation, that James's powder has been of remarkable utility in certain instances of determination of blood to the head, which occurred at an early period of life, and threatened to end by effusion. Lastly, in two cases of general plethora, in which, however, the head was more affected than any other part, James's powder was exhibited by me with perfect success. The following is one of these cases, and it is selected in preference, because James's powder

appeared to remove the disease without the assistance of any other remedy.

The subject of the case was a lady about twenty-eight years of age, of a sanguine temperament, and rather full habit of body, without any tendency to hysterical complaints.

She had been complaining for nearly seven years of a distressing fulness in her head. During the first three years of her illness she had three children still-born; then she went to London to consult an eminent accoucheur, who made her live low and abstain from fermented liquors, and had her bled from the arm whenever her head was severely affected. In the two following years she had two children, born healthy and strong. She still pursued the same abstinent plan, and was let blood when the uneasiness in her head was great, but without the same benefit; for, about six weeks before she consulted me her last confinement took place, the child being again still-born.

She complained of a heat and weight in her head, so that she could hardly keep her eyes open. She had continued vertigo; her vision was indistinct, and her memory impaired; she described herself as confused and stupified. She had a sense of suffocation and fulness about her throat, so that she feared to go to sleep, and for many weeks she had no expectation of again awaking. But what distressed her more than any thing, was a peculiar sensation at

her heart, which she said was as if there were no pulse in it for nearly a minute, as if it had not room to beat. Her skin was dry and hot, her pulse full and rather quick, and she complained of swelling in her hands and feet, which, however, did not pit upon pressure.

She began a course of James's powder in the latter end of September: the first night she took only two grains, and every succeeding night she took an additional half grain, till the dose amounted to twenty grains. She took twenty grains every night for five weeks, when she found herself so well that she discontinued the medicine.

The last letter I received from her was dated on the 31st of January, 1817. She was at that time "free from all the fulness about her throat, and "the swellings of her hands and feet were removed, "but the relief in her head was inexpressible; she "had nothing of the unpleasant sensation at her "heart, except when any thing particularly agitated "her. She still found it necessary to attend to "her manner of living, as when she ate more than "a small bit of meat it made her heavy. Having "a particular dislike to wine, she never drank any "thing at her meals but water." She was recovering from catarrh, which she attributed to walking in the snow.

It is further to be observed, that she walked out every day all the winter without muffling herself more

than usual, and without injury, until she exposed herself unnecessarily. The medicine had no perceptible effect; and in removing the dry and burning heat of the skin it did not sensibly produce perspiration.

In the month of July she was in perfect health.

The following very simple method of exhibiting James's powder, in cases of undue determination of blood to the head, is that which I have generally pursued. The patient is made to begin with a very moderate dose, not more than two grains at bed time, and to increase the dose by half a grain every night, until some sensible effect is produced upon the stomach, bowels, or skin. Should the stomach be affected with sickness, the dose must be lessened by one grain on the following night. By the addition of a little rhubarb to it, a larger quantity of James's powder may be administered than the stomach could otherwise bear. If the skin is softened, or the bowels affected, the dose should not further be increased, but it must be repeated every night for a considerable length of time: in several instances I have known eighteen or twenty grains taken for a considerable period without any inconvenience. Even when not productive of any sensible perspiration, it sometimes allays the heat and restlessness which so often attend irregular determinations of blood. In one or two instances it has apparently had a soporific effect. In one instance the patient, after a com-

fortable night, always awoke gently perspiring, his skin previously having been remarkably unyielding; but in other cases it has produced no sensible effect upon the secretions or excretions, save that of removing a sense of burning heat of the surface of the body.

It has not been productive of any injurious effects upon the appetite or digestion, and no rules of diet have been given, but such as the nature of the case required, unless that directions have been given to avoid acids. In cold weather the patient has been desired to make some addition in point of clothing, but has not been confined to the house; on the contrary, when capable of it, has been encouraged to take regular exercise in the open air. Nor has it appeared to me that the habit was more susceptible of catarrhal or rheumatic complaints while under the influence of James's powder, than at any other time.

I need scarcely observe that antimonials are not meant to supersede the usual remedies, namely, bleeding, purgatives, and a strict antiphlogistic regimen. They are merely a part of the prophylactic treatment to be employed when the fit or threatening of apoplexy is over.

It would be easy to form a theory of this matter upon the well-known property which antimonials possess of determining to the surface, promoting the intestinal secretions, and controlling increased vas-

cular actions; but this would be a waste of words at present.

I have made no experiments with any other preparations of antimony, as they are all less uniform in their operation, and consequently less manageable than James's powder; but I suppose they might be substituted in economic prescription.

James's powder is probably applicable to that species of epilepsy which is connected with the apoplectic diathesis, and perhaps to other species of epilepsy also.

It was not my intention to add any thing to the foregoing testimony in behalf of the utility of James's powder, in determinations to the head; but I cannot resist the temptation of annexing a case, which I owe to an accurate observer of disease, Dr. Brown, staff surgeon in this district, and which I received just as I was sending my manuscript to press.

"Aug. 2d, 1817. The subject of the case is a gentleman about 50 years of age, who had been accustomed all his life to live much in society, with a round chest and short neck, and rather inclining to corpulency. In the autumn of 1816, he had the first of the fits to which he has since been subject. The approach of the fit was usually indicated by a distended stomach, which he termed being bilious, by some degree of giddiness and throbbing at the temples; and it consisted of an in-

stantaneous privation of sense, and the power of motion, and a consequent falling flat on the floor or the street; but he usually had hardly reached the ground before he was quite himself again. The fit left no other effect than a confused sensation in his head.

These fits he usually had about once or twice in a fortnight; one day he had them twice.

Whatever affected his temper, or hurried him: the buz of a crowded room, or several persons speaking together, he used to imagine had a tendency to produce these attacks.

The practice adopted for his relief consisted of bleeding, cupping, and leeching his temples; (the latter was the form most generally had recourse to). From a dozen to a dozen and half of leeches, was the number usually applied; he was also purged, about twice a week, with five grains of calomel and ten of Ext. Coloc. C. at bed-time, and half an ounce of Epsom salts in the morning.

He was deprived of wine, beer, &c. and confined to one dish at dinner; and on this plan the frequency of fits was much diminished; still, however, there was one occurring now and then.

About the middle of last April he commenced the James's powder at your suggestion; two grains was the quantity taken at bed-time at first, and the dose was increased a grain every night until he reached

ten, which he took every night for a week; the dose was then increased to twelve, then to fourteen, then to sixteen grains: he is now taking eighteen every night at bed-time, from which he perceives no sensible effect. At first he used to perspire considerably more at night, and in the day more upon any slight exertion than was usual to him, and he made more water.

He has now not had any fit for nearly four months."

HISTORY

OF A

REMARKABLE ENLARGEMENT

OF THE

BILIARY DUCT.

BY CHARLES H. TODD,

MEMBER OF THE ROYAL COLLEGE OF SURGEONS, IN IRELAND, &c.

THE following case of an enlarged biliary duct, which appeared to be the consequence of an indurated state of the pancreas, is a striking example of the powers which some organs possess, of accommodating themselves, both in their capacity and structure, to the force of distension, when gradually applied to them. The case occurred some years ago, and the preparation of the parts engaged in the disease is still in my possesion.

I was requested by Doctor Ferguson, who was then a senior physician to the House of Industry, to examine a tumor in the abdomen of a girl, aged about fourteen years, who was a patient in the Hardwicke Medical Hospital.

At the time I saw the girl, her skin was of a deep orange colour; she was greatly emaciated, had anasarca of the lower extremities, and appeared to suffer much pain, although almost wholly insensible to external objects. She was unable to speak, and seemed not to understand any question put to her. Her hands were firmly closed; her jaws fixed, so that it was with difficulty I could pour a teaspoonful of wine into her mouth. She moaned incessantly, and frequently screamed, as if suddenly seized with acute pain.

Upon examination I discovered that the abdomen was distended with fluid, and that the epigastric and right hypochondriac regions were particularly tumified; a distinct tense swelling occupied those regions, and could be traced extending even below the umbilicus. At one point, which appeared more prominent than the rest, a little below the ensiform cartilage, and to the right of the linea alba, a fluctuation was very evident. This part was extremely sensible, as the least pressure on it appeared to encrease the patient's sufferings; and I thought it very probable that a large abscess of the liver was here approaching the surface. With this impression, and anxious to afford immediate relief, I made an opening into the most prominent part of the tumor, by dissecting cautiously with a lancet, and gave exit to a thin fluid coloured with green bile. From the appearance of the fluid which escaped, it immediately occurred to me that I had mistaken an over-distended gall bladder for an abscess, and having opened

it, that its contents had mixed with, and coloured the fluid effused in the abdomen. Wishing to prevent, as much as possible, the further extravasation of bile into the cavity, I introduced the canula of a trocar through the wound, which fortunately passed into the sac; and the opinion which I had formed was then strengthened by my observing, that the fluid discharged through the canula was viscid green bile, of which I drew off upwards of two quarts.

After withdrawing the canula, a considerable quantity of the thin fluid was discharged, such as passed through the wound before the tube was introduced, and the tumefaction of the abdomen entirely subsided. I then carefully examined every part of the abdomen, but could not discover enlargement of the liver, or any other swelling; the patient, however, exhibited signs of augmented pain when pressure was made on the epigastric region.

In the course of the day the girl appeared in a slight degree relieved, and became more sensible; but in the evening all the unfavourable symptoms returned; the belly became swollen, painful, and tense; she had several attacks of convulsions during the night; next morning she was completely comatose; her respiration laborious; her pulse weak and intermitting, and she died in the evening of that day.

On the following morning I examined the body.

When the abdomen was opened, a large quantity of serous fluid, mixed with green bile, was discharged; the peritoneum was inflamed in several parts, and flakes of coagulable lymph adhered to its surface, and floated in the fluid. The liver was perfectly healthy, and of its natural size; the gall bladder was empty and contracted; the hepatic and common ducts were enormously distended, and contained more than a quart of bile, exactly similar to that which passed through the canula in the operation. These ducts formed a sac, which extended from the porta of the liver to the os sacrum, lying behind the duodenum, pancreas, and root of the mesentery, and stretching in a transverse direction, so as to cover the anterior surface of the right kidney and the greater part of the left.

Having discovered and dilated the opening in the sac, which had been made with the lancet, I traced the distended duct up to the liver, where it received the smaller hepatic ducts; and these were so much enlarged, particularly that of the right lobe, as to admit of the introduction of one of my fingers without difficulty.

The cystic duct, at its junction with the hepatic, was dilated for about half an inch; but on examining the interior of it at this part, a sort of convolution or fold seemed to have been formed, which probably acted as a valve, and prevented the bile from passing to the gall-bladder; the remaining portion of this duct was pervious, and of its natural size.

I next proceeded to search for the extremity of the common duct which opens into the duodenum, but I could not discover it; the pancreas was scirrhous, and that portion of the gland with which the ductus choledochus is connected, together with the surrounding cellular substance and absorbent glands, was converted into a hard solid mass, closely adhering to the duodenum and lower part of the enlarged biliary duct, which last seemed to have been completely obliterated.

All the morbid parts, and those connected with them, being removed, I renewed my attempt to find the opening of the duct into the intestine, but in vain; I dissected off some of the diseased substance of the pancreas, and discovered its duct unusually small; it admitted a fine probe a short way only, and its cavity was also obliterated near to the intestine.

The biliary duct, besides being enlarged to this surprizing extent, was much thickened, and its internal surface was lined with a gritty deposite, a part of which was scraped off with difficulty.

The coats of the stomach and intestines were unusually thick, and they contained a quantity of mucus only, without any appearance of bile.

This girl had been extremely delicate from her infancy, frequently liable to irregularities of the digestive functions and pains in the abdomen, which

were ascribed by her friends to worms. She had been in very bad health for some months immediately preceding her death, during which period she had a severe fever and two or three relapses, succeeded by the evolution of the extraordinary disease which terminated her existence.

ON PERIOSTITIS,

OR

INFLAMMATION OF THE PERIOSTEUM.

BY PHILIP CRAMPTON, M. D. F. R. S.

SURGEON GENERAL TO THE ARMY AND FORCES IN IRELAND.

INFLAMMATION of the periosteum, unconected with any known constitutional disease, is an affection with which practical surgeons are well acquainted. It is remarkable, however, that a disease so important in its consequences, and of such frequent occurrence, should not have been noticed in any systematic work, nor have been made the subject of any separate inquiry.*

Some detached observations have been made upon the disease, as affecting particular parts, and the appropriate treatment has been distinctly laid down; but there has been no generalization, and the decisive practice which is so eminently successful in the paronychia periostei (the severest form of deep-

* I do not find a single reference to this disease in the comprehensive and valuable works of Ploucquet or Young.

seated whitloe) has not been extended to the painful nodes of the cranium, the tibia, or the sternum, although these affections are similar in their nature, are often equally idiopathic, and are as certainly relievable by a similar treatment.

The frequent occurrence of inflammation of the periosteum in connection with constitutional disease of a specific character, is, perhaps, the cause that its existence as an idiopathic affection has attracted so little attention; but, however this may be, it is certain that the real nature of the affection has very generally been mistaken; it has either been considered as symptomatic of some specific constitutional disease, or as the consequence of a diseased state of the subjacent bone.—The object of the present paper is to direct the attention of the younger part of the profession to this disease, as an idiopathic affection, to notice the different forms in which it appears, and to point out the practice which is applicable to each.

Inflammation of the periosteum, in whatever shape it may appear, is a most severe disease; the intolerable pain, and the constitutional disturbance which is attendant upon it in the acute form, is referable to the peculiarity of structure, and of vital properties which the periosteum enjoys in common with the "*Fibrous System*,"* of which it forms a part.

The peculiarity of structure consists in a total

* Bichat.

want of elasticity, and an incapability of yielding (without rupture) to any extending cause which is suddenly applied. The peculiarity in its vital properties consists in the mode of its sensibility. Periosteum, in common with tendon, ligament and aponeurosis, is (unless in a state of inflammation) insensible to the agency of chemical or mechanical irritants; but in common with those similar structures, if it be exposed to a violent and sudden extension, its sensibility is immediately excited in the highest degree. This is exemplified in the case of ligaments by the violent and debilitating pain, which is experienced from the sudden twisting of a joint, (as of the ancle or spine) and in the periosteum, from the torture which is felt when it is distended by effusion between its inner surface and the subjacent bone. In the latter case the suffering is of course much aggravated by the presence of the inflammatory action, which preceded the effusion.

Inflammation of the periosteum, like inflammation of other parts, may appear either in the acute, or in the chronic form.—These states, however, should be considered but as the extremes of a scale between which the disease will be found to exist in various degrees of intensity. The paronychia periostei affords a very pure and familiar example of the disease in its acute form. This affection, however, is to be distinguished from the more usual form of paronychia, in which the inflammation is seated in the sheath of the flexor tendons of the fingers.

In the paronychia periostei, the pain is excessive,

and the constitutional disturbance is proportionably severe. The finger, which is the seat of the disease, and soon afterwards the hand, become swollen and tense almost to bursting; erysipelatous inflammation, attended with œdema, quickly extends over the hand and arm—the fingers become livid, and if relief be not obtained by a timely operation, the disease terminates in the destruction, by sphacelus, of one or more of the phalanges. But the mischief does not always end here, as the mortification sometimes extends to the integuments of the hand, and even of the fore arm; deep seated abscesses are formed among the muscles, and after weeks, or even months of suffering, the patient may be esteemed fortunate who escapes from a neglected inflammation of the periosteum of a single phalanx, with a stiffened and mutilated hand.

In the paronychia of the sheath (paronychia tendinei) the suppuration, after having proceeded to a greater or lesser extent along the sheath, finds its way to the surface through a small opening, which soon throws up a painful fungus, perforated in the centre, through which a probe may be readily passed down to the tendon, but no farther. In the paronychia periostei, on the contrary, the disease, when committed to nature, I believe uniformly produces sphacelus of the soft parts; and the probe being introduced through the slough, passes down at once to the naked bone. I have been led into this short digression upon the subject of paronychia, from a consideration of its vast importance, since there is,

perhaps, no disease for the relief of which art can do so much, and nature so little.

The terminations of inflammation of the periosteum (to use the technical phrase) are various; they seem to be chiefly modified by the type of the inflammation, the acute form most frequently terminating in suppuration, and the chronic in cartilaginous thickening of the membrane, absorption of the subjacent bone, or in the deposition of an undue quantity of bony matter upon its surface.*

Inflammation of the periosteum, like other diseases commonly called local, is, I believe, in general connected with some constitutional derangement. It accordingly appears most frequently in scrophulous habits, and in those whose constitutions have been broken down by repeated courses of mercury, or by a long residence in hot climates. I have, notwithstanding, met with the disease in persons who, in every other particular, seemed to enjoy the most perfect health. I believe external injury to be a more frequent exciting cause of this affection than is generally suspected. The following

* The absorption of the suface of a bone should not be confounded with caries, as no two affections can be more distinct, either in a pathological, or a practical point of view. In caries the bone is deprived of life, and accordingly the periosteum is invariably found detached from its surface; in the case of absorption, on the contrary, the bone is preternaturally vascular, and the thickened periosteum adheres to it with the greatest tenacity; in fact, it is often difficult, in such cases, to distinguish the limits between the softened bone and the condensed periosteum.

cases are illustrative of the disease in its acute form, terminating in suppuration.

CASE I.

In the year 1812, J. Sergisson, a working jeweller in Dame-street, about 26 years of age, of a pale complexion, but of rather an athletic form, applied to me for what he termed a disease in the knee. I found him crying out with pain; his face was pale and bedewed with a cold sweat. Upon the upper and flat surface of the tibia there was a diffused tumor of a pale red colour, extending about two inches below the articulation of the knee joint; it was smooth, hard, and exquisitely painful to the touch. The man said, "He had not "slept for twelve nights; that he was exhausted by "suffering; and that nothing remained upon his "stomach." His pulse was at 120, small and weak, his tongue was white, but not coated. He told me he had suffered from a similar attack about two years before; that he had been bled with leeches, and blistered, but without relief. A surgeon then appled a caustic plaster, which he said in a short time made a large opening in the skin, and that he soon afterwards obtained relief by the discharge of some matter. The wound remained open for several months, but at length a small scale of bone coming away, it healed in a few days. I immediately made an incision about three inches long down to the bone; the operation seemed to give an unusual degree of pain; the wound bled freely, but I could

not discover any traces of purulent matter. On the following morning, he told me that he had passed an excellent night, and was quite free from pain. The wound was dressed superficially, and healed in a short time: in about three weeks he was able to return to his business. In the year 1815 he experienced a similar attack in the same limb, but somewhat lower down upon the tibia. The disease was treated in the same way and with the same success.

In the following case, the fatal event is no doubt to be attributed to inflammation of the dura mater; but the disease may, nevertheless, with perfect propriety, be considered as an instance of acute periostitis, since the dura mater is to the internal table of the skull what the pericranium is to the external table; the inflammation too began in the periosteum of one of the bones of the face, and slowly extended from thence to the dura mater. The case was drawn up at my desire by my relative and friend, Dr. Crampton, from notes which were taken at the bedside by Dr. Harty and himself.

CASE II.

Master T. aged 14, remarkably tall for his time of life, full but not muscular, subject to frequent feverish attacks, on the 1st of September, 1816, got a small angry tumor on the right side of the bony arch of the nose. In a day or two it became in-

flamed and erysipelatous, and occupied all the teguments on the right side of the nose.

On the 5th feverish symptoms ran so high, although he had used fomentations and purgatives freely, that ℥xii. of blood were taken from the arm. On the 6th lb.i. was taken with apparent relief. The swelling still continuing to extend on the 8th to the right eyelid; the pulse being strong and hard, the bleeding was repeated to lb.i. On the 9th, to Doctors Harty and Archer, in consultation, the disease seemed so far mitigated, that an attention to the state of the bowels alone appeared necessary. In the evening, however, he became comatose, with a slow full pulse, and occasionally delirious; lb.i. of blood was taken, and a blister applied to the neck.

Such was the history of the case, when I was called to see Master T. on the 10th.

At the time of my first visit he had a violent convulsive fit, after which he was nearly comatose, his respiration stertorous; antecedent to this, his breathing was represented as having been uniformly good. Pulse about 120, full and throbbing; the nose, right eyelid, and teguments of that side of the forehead erysipelatous; both eyes closed; the parts were so tender that the slightest touch gave exquisite pain, and roused him from his coma. Some pus had came from the right nostril, and a little had been spit up, mixed with blood.

The temporal artery was opened by Dr. Harty

without loss of time, and ℥20 of blood were taken from the arm; sixteen leeches were also applied to the temples, and the head kept cool with ice. This latter measure appeared to afford considerable mitigation to the pain; but no eventual advantage followed.

In the evening ℥xx. more of blood were taken from the temporal artery. On the 11th he seemed to suffer much, as he constantly moaned, but was unable, even when roused, to articulate.—A spot over the right eyebrow, to which he with difficulty raised his hand, was the most painful part. On opening the closed palpebræ with my finger, the pupils looked large and immoveable, and a layer of clear coagulable lymph formed a coating over the corneæ of both eyes. Leeches, blisters, &c. were all resorted to, but he died, without any convulsive effort, on the morning of the 12th. With the morbid appearances after death you are well acquainted.

JOHN CRAMPTON.

Examination of the Body.—13th September, 1816. The following appearances were observed on examining the head of Master T. aged 14, thirty hours after death. Present Doctors Archer, Harty, Crampton, and Mr. P. Crampton.

On raising the scalp the pericranium, covering the os frontis on the right side, appeared thicker than natural, and was in some parts of a dark red colour; it was completely detached from the subja-

cent bone, and its *inner* surface was covered with thick purulent matter of a light green colour. On slitting down the membrane as far as the superciliary ridge, a considerable quantity of purulent matter escaped from all sides, and a probe was easily passed backwards into the orbit between the bone and the periosteum, and downwards behind the temporal muscle, as far as the back of the palate.

On raising the scull cap, the *outer* surface of the dura mater (for an extent corresponding with the limits of the detached pericranium) was found to be separated from the internal table of the scull; it presented a dull and flocculent surface, and was smeared with a greenish puriform mucus. The structure of the *inner* surface of the dura mater was less altered, but it was more generally covered with purulent matter; it was observed to be in considerable quantity on that part of the membrane which invests the anterior part of the right hemisphere, but there was no part of the internal surface of the dura mater which did not exhibit traces of suppuration.

The pia mater was, perhaps, more vascular than usual; but the arachnoid membrane was perfectly transparent, and no effusion had taken place upon its surface, except upon the upper part of the anterior lobe of the right side; and here the pia mater, for the extent of about two inches, was in a state of suppuration. This diseased part exactly corresponded in situation and extent with a large patch

of thickened and inflamed pericranium of a dark red colour. The brain was perhaps more vascular than natural, and there was about an ounce and a half of water in the ventricles.

The right side of the face was somewhat swollen, and the upper eye lid was protruded beyond the eyebrow. An obscure fluctuation could be felt beneath the integuments of the upper part of the nose. On cutting down to the bone, a considerable quantity of purulent matter issued from beneath the periosteum, which was found to be in a state of suppuration, and so extensively detached from the subjacent parts that a probe could, with great ease, be passed between that membrane and the bones, either upwards upon the os frontis, backwards along the roof of the orbit into the cranium, or downwards upon the maxillary bone into the mouth.

It would appear, then, upon connecting the history of this distressing case with the appearances after death, that the disease was (in its commencement) an inflammation of the periosteum, affecting that part of the membrane which invests the bones of the nose. In the progress of the disease, the membrane which covers the bones of the face and head, and ultimately the investing membrane of the brain itself, became engaged in succession. So long as the inflammation was confined to the periosteum, which covers the bones of the face, the symptoms were moderate; but as soon as it extended to the pericranium and the dura mater, the fatal train of symp-

toms which uniformly attend inflammation of the latter membrane, immediately set in, and ran their accustomed course.

In the following case the disease assumed a more chronic form; the inflammation accordingly did not, as in the preceding instance, terminate in suppuration, but in a thickening of the pericranium, and subsequently of the dura mater. The affection of the brain exhibited a corresponding chronic character, and was such as is observed to depend on the compression of that organ by a tumor, or by a portion of depressed bone.

Mary Loudon,* a ribbon weaver, aged 32, was admitted into the Meath Hospital, on the 14th of December, 1812. She complained of intense pain of the head, chiefly affecting the left side—the right arm was wasted and paralytic, and the fingers were contracted—the lower extremities were so feeble that she could not stand erect without support; her speech was faultering, and her articulation indistinct; her form was emaciated; the countenance pale, and expressive of the greatest distress: she seldom ceased to weep, and said that she could get no sleep from the incessant pain of her head. Her pulse was 60, small, weak, and compressible; her stomach rejected all food, and her bowels were torpid. A few hours af-

* Although this case came under my immediate observation in the Hospital, I am indebted to Mr. Hewson, for the daily reports which were taken at the bed side.

ter she had been received into Hospital she had a strong convulsive fit. There was a tumor about the size of half a walnut over the middle of the left parietal bone; it was soft and elastic at the centre, but firm at the circumference. There was a small opening at the apex, through which a probe could be passed down to the bone. She gave the following account of the disease: About six months before, her husband struck her on the head with the heel of his boot; she was stunned by the blow, but the integuments were not wounded. She soon recovered from the immediate effects of the injury, and continued tolerably well for a month or six weeks; she then, for the first time, observed a swelling, attended with considerable soreness about the part where the blow had been inflicted. The tumor daily became more painful, and she soon began to suffer from severe headach, sickness of the stomach, and want of rest; her health began rapidly to decline, and about a month previous to her admission (and about five months from the period of the injury) she was seized with an epileptic fit; on recovering, she discovered that she had lost the use of the right arm, that she expressed herself with difficulty, and that she was no longer able to stand without support. Since that period the fits have frequently recurred, and her health and spirits have rapidly declined.

On Tuesday the 18th of August, it was determined, in consultation, to lay open the tumor through its whole extent down to the bone, and to remove by the trephine a portion of the skull, corresponding

in extent with the diseased part of the pericranium; the operation was performed by Mr. Hewson; it was observed, in making the incision, that the pericranium, which formed the bulk of the tumor, exhibited a firm fibrous structure; that it was unusually vascular, possessed a high degree of sensibility, and adhered with such force to the subjacent bone, that it was with difficulty detached in order to make room for the application of the Trephine; the bone was rough, in consequence of a considerable portion of the outer table having been removed by absorption, but the firm and vascular adhesion of the pericranium sufficiently evinced that its vitality was unimpaired. When the circular portion of bone was removed, the dura mater bled freely; the membrane seemed to have undergone a change of structure, in all respects similar to that which was observed in the pericranium. The lips of the wound were laid down and dressed simply.

19th. She had a much better night than she had enjoyed for some weeks; much less pain of the head; complains, however, of chilliness. Pulse 60, soft and small. Vomited once this morning.

20th. Had no sleep from uneasiness of the head; lips of the wound somewhat swollen. Vomited frequently. Pulse 70. No stool. Ordered cathartic pills, with calomel, and an effervescing mixture.

21st. No particular change; stomach still irrita-

ble; bowels constipated. The purgative medicines were continued.

22d. At 8 o'clock last night had a severe rigor; is at present in a state of insensibility, from which she can with difficulty be roused; breathing laborious, and accompanied with stertor. The countenance in general pale and sunken, but sometimes suddenly suffused with red; pulse 120, small and indistinct; extremities cold; tongue dry, and brown in the middle, bowels still constipated; stomach rejects every thing. Purgatives continued.

23d. Passed a restless night; was frequently delirious; edges of the wound more swollen, and extremely sensible; bowels have not yet yielded; Pulse 120.

24th. Had a severe convulsive fit during the night; continual startings; much delirium; an erysipelatous inflammation occupies the parts about the wound, extending behind the right ear down the side of the neck; bowels still costive; the purgatives, in one shape or other, still persisted in; every thing rejected by the stomach.

25th. The erysipelatous inflammation extended over the face and both the eyes; other symptoms as before.

26th. The bowels at length yielded in the course of the night; she afterwards obtained some rest, and the countenance this morning is expressive of great

relief; she sits up in her bed, and answers distinctly to the questions which are put to her. The erysipelas has decreased, a considerable quantity of healthy pus has flowed from the wound: the thickened dura mater protrudes above the edge of the bone, and seems disposed to slough; the stomach settled, tongue moist, and cleaning at the edges. Pulse 120.

27th. Slept well last night; erysipelas rapidly declining; the power of the right arm considerably improved; a slough has been detached from the dura mater. From this day forwards every thing proceeded in the most favorable manner. On the first of September she was free from complaint, and the right arm had completely recovered its strength; on the 20th she returned to her occupation.

It is impossible not to be struck by the resemblance which obtains between this case, and some of those related by Sir Everard Howe, in his valuable paper in the 3d vol. of the Medical and Surgical Transactions, whatever opinion may be formed as to the original seat of the inflammation in those cases: it is obvious that in the case of M. Loudon, the disease originated in the pericranium, and was transmitted from that membrane to the dura mater, since the symptoms denoting a diseased state of the latter membrane did not appear until the inflammation of the former had subsisted for several weeks. The same observation is applicable to the case of master T. In a practical point of view, however, it is of little consequence to determine in which of the two mem-

branes the disease begins, since both reason and experience suggest the propriety of dividing the inflamed pericranium, whether with a view of preventing the extension of inflammation to the dura mater, or of relieving that membrane, should it already have been inflamed.

The following Case is illustrative of the disease in what might be termed the subacute form:

Mr. B——, aged twenty-three, of a fair complexion, and of rather a delicate frame, consulted me in the month of March 1814, on account of a disease, of which he gave me the following history:

In the Spring of 1812, he first complained of a severe pain in the upper part of the tibia of the right leg. The pain usually attacked him after dinner, and continued through the greater part of the night. In the morning he was always relieved, and able to pursue his usual diversions of shooting and hunting: the seat of the pain, however, remained extremely tender to the touch, although the part was neither swelled or discoloured. He suffered in this way for several weeks; the pain, however, becoming more violent, and the intervals of ease shorter, the leg used to swell at night, particularly about the ankle, and he was no longer able to walk without pain. In this state he applied for advice in Dublin; leeches and blisters were repeatedly applied with temporary advantage, and he was ordered some pills, which he believes were mercurial. The pain, however, continued, and his health became materially impaired;

he had a regular accession of fever every night, which terminated in a profuse perspiration at about five o'clock in the morning. He now observed that the shape of the limb was somewhat altered; there was no distinct tumor on the tibia, but about two inches below the knee joint, the upper and flat surface of the bone presented a rounded appearance, and the whole of the limb was somewhat œdematous, but the skin was in no part discoloured. In this state he returned to the country, and applied to the late Mr. Pack of Kilkenny, who told him that the disease was "an inflammation of the periosteum," and advised that an incision should be made through the whole length of the tumor down to the bone. The operation was accordingly performed by Mr. Pack, with the most complete success; the pain was immediately relieved, and in a few weeks Mr. B. was restored to perfect health.—In 1813, Mr. B. called upon Mr. Astley Cooper, who told him that he had merely to advise a repetition of the operation so judiciously performed by Mr. Pack, in the event of a recurrence of the disease. Early in March 1814, the disease recurred, and Mr. B. called upon me about the latter end of the month; the inflammation had attacked the periosteum about two inches below the seat of the former disease. The pain commenced, as usual, in the afternoon, and continued until about three or four o'clock in the morning. He then fell into a profuse perspiration, which terminated the paroxysm, and he obtained some rest. His appetite, as in the former attack, completely failed him, and he emaciated rapidly. His

pulse was never below 80, and his tongue was white, but not coated.*

Mr. B. was directed to take three grains of the blue pill, and two of aloes every night, a pint of the compound decoction of sarsaparilla, with two or three drachms of the powder, in the course of the day. As the disease had commenced but a few days, its precise seat was not easily ascertained; taking, however, the part of the tibia which was most sensible to pressure as a centre, the incision was made to extend about an inch above and below this point. The periosteum was found to be about a quarter of an inch thick, its structure was almost cartilaginous, and its sensibility seemed to be much increased.

* Mr. B. noticed a circumstance with respect to the influence of fermented liquors upon this affection, which appears to me to be of considerable importance, as illustrative of the effects of even very small quantities of alkohol, in diseases of an inflammatory nature. He observed at first, that the pain invariably recurred within an hour after dinner, at whatever time he might have taken that meal, and whether the food had been animal or vegetable. Suspecting that this might be connected with the nature of the liquid, rather than the solid matter which he took into his stomach, he left off fermented liquors; on the first day on which he made this change, the pain did not recur until he had been an hour in bed; this led him to institute a number of experiments upon the influence of different kinds of fermented liquors, in different quantities; the result was, that the pain could with certainty be excited within an hour, by drinking a glass of any kind of fermented liquor, however weak, and a single dram by measure, of port wine, diluted with four ounces of water, acted with equal energy as a glass of the undiluted wine.

After the pain attendant on the operation had subsided, Mr. B. experienced complete relief, and the wound, which was dressed superficially, healed in a few days. In the course of a week, however, the pain returned with its usual violence, but it had taken up a new seat, having commenced at the lower extremity of the last incision. In a few days a second incision was made, immediately below the former one, and the pain was again completely relieved. The wound on this occasion was dressed to the bottom, and kept open for nearly three weeks; but while it was yet discharging, the pain recurred in the seat of the original disease; it was, however, by no means severe, and Mr. B. was always able to procure a good night's rest by a grain of opium.

As his health was a good deal impaired, he was advised to go into the country and I have, within these few weeks, had the satisfaction to learn, that he has had no return of this distressing disease.

Chronic inflammation of the periosteum may exist for a considerable time, and yet the general health may be but little impaired; the disease, however, is not on this account the less formidable, as, sooner or later, the subjacent bone becomes diseased, and it has been shewn that when the pericranium is the seat of the affection, the most serious consequences are to be apprehended from the extension of the disease, through the bone to the dura mater. Chronic inflammation of the pericranium, unconnected with external injury, or with specific disease, is by no means an unfrequent affection; that it is inti-

mately connected with a disordered state of the general health, there can be but little room to doubt, although in the present state of our knowledge, I apprehend that we are at least premature in referring the disorder *exclusively* to the digestive organs.*

* I am far from denying that many local diseases are intimately connected with a disordered state of the chylopoietic viscera; but I would merely affirm, that when we have no evidence of a derangement in the functions of these organs from the state of the appetite, or the apparent qualities of the alvine excretions, we are not warranted in concluding that such a derangement exists, because a local disease has yielded to mercurials, to bitters and aperients. In point of fact, we know nothing of the operation of medicines upon the animal economy, but by their effects; that certain medicines exercise a peculiar influence upon particular organs, is apparent to our senses; but in what manner this influence is exerted, is an inquiry of the utmost difficulty, and in which as yet we are but a small way advanced. It has been well observed by Mr. Abernethy, that a disordered state of the digestive organs, and a local disease in a remote part of the system, may be concomitant effects, depending upon some unknown irritation proceeding, perhaps, from the nervous system, and that the medicine which appears to act beneficially upon the local disease, through the medium of the digestive organs, may in fact but correct a more general derangement of the health, of which a disorder in the chylopioetic viscera is but one of the effects. To some this view of the subject may perhaps appear more curious than useful; it may be urged that it is of little consequence to what part of the system we trace the disturbing cause, provided the morbid effects be removed by correcting a disordered state of the digestive organs: but, exclusive of the obvious objection to a hasty generalization, it appears to me of great importance, *in a practical point of view*, to take a wider range of investigation. The practitioner who looks exclusively to the digestive organs, as to the sources of all local disease, will, I fear, be disposed to trust too much to medicine, and too little to those other influences which act most beneficially upon the human constitution.

CASE IV.

In the year 1813, a general officer, about forty-seven years old, remarkably well made, and of a constitution naturally vigorous, returned to Ireland from the Peninsula for the recovery of his health. He suffered from a variety of dyspeptic symptoms, such as costiveness, loss of appetite, depression of spirits, and unconquerable languor. His principal complaint, however, was severe head-ach, which chiefly affected him at night. Upon examining the head, I found that the forehead and scalp were covered with flattish tumors, differing in size, from about a quarter of an inch to nearly an inch in diameter. They were slightly painful upon pressure, but seemed to be as hard as bone to the touch. He was directed to take five grains of blue pill every night, and a draught, consisting of infusion of gentian and rhubarb, with a dram of sulphate of magnesia, every morning and noon. His diet was regulated, and he was ordered to use the tepid salt water bath three times a week.

I saw this officer about two months afterwards; his general health was much improved; he had put up a good deal of flesh, and the tumors of the scalp and forehead had completely disappeared; but he still suffered occasionally from headach and sickness of the stomach.

In the following case (which is supplied by my friend Mr. Todd), the disease seemed to have extended to the bone and neighbouring parts, in consequence of the operation of dividing the inflamed periosteum having been too long delayed.

CASE V.

In the month of May 1816, I was called on to visit a lady from the country, who had, for nearly three years before, laboured under a painful affection of one of her legs. She was twenty-five years of age, of a fair complexion, and apparently delicate habit; but she ascribed her delicacy to repeated attacks of pain, long confinement, want of rest, and the use of medicines to a considerable extent.

This lady had a swelling on the forepart of the tibia of the right leg, about two inches above the ancle joint; it was nearly three inches in length, not very prominent, and the skin of its natural appearance. The tumor was soft but elastic, and conveyed a sensation as if a small quantity of fluid was collected under the periosteum. The integuments over the tumor, and for some distance around it, were slightly œdematous. The patient suffered much pain, which was increased by keeping the leg in a depending position, and as the warmth of the bed always increased her sufferings, she generally passed the night walking about her chamber. In the morning she slept for an hour or two, but was seldom free from pain, except for a short time in the early part of the afternoon.

Various remedies had been tried by country practioners of judgment and experience, but without de-

cided benefit. After local treatment had failed, she was put through a full and protracted course of mercury, which had the effect solely of producing considerable debility. During the summer months her pain was by no means so acute as in the cold seasons, and she was induced, in the months of July and August 1814 and 1815, to have recourse to the cold bath; but on the approach of winter her sufferings recurred, and continued to the period at which she placed herself under my care.

In the various plans of treatment which had been employed for the relief of my patient, local bloodletting was omitted; it was therefore determined, in consultation, by Mr. Crampton and myself, that six leeches should be applied to the tumor every evening, and as much blood taken from the part as possible. During the day a compress, frequently wetted with camphorated spirit, was laid on the swelling; the bowels were kept open with small doses of the sulphate of magnesia, and when pain was very severe, an opiate was administered; but this in general did not produce a narcotic effect, and was therefore discontinued after the third or fourth exhibition.

These remedies were persisted in for more than a week; the repeated bleedings weakened our patient considerably, and as the skin became tense, and the relief was very partial, we resolved to make an opening into the tumor. Accordingly an incision of the full length of the swelling was made completely to the bone; the surfaces of the wound bled freely, but

no matter was discharged. The integuments were very much thickened, and the parts, close to the bone, had acquired a ligamentary firmness. There was so little retraction of the edges of the cut, that I was obliged to interpose a few dossils of lint to prevent adhesion.

In the course of a few days the wound suppurated; some relief was obtained, and my patient left town on the 26th of May. In a month after her return to the country, I received a letter from her, to state that the wound had healed, that she felt somewhat better, but that she suffered severe pain occasionally. I have not heard from her since."

Inflammation of the periosteum sometimes terminates in the deposition of bony matter upon the surface of the subjacent bone. This constitutes the true bony node, which, although rather a rare affection in man, is of very frequent occurrence in horses. In the veterinary art the disease is termed "*splint*" when it occurs about the middle of the long bones, and "*bone spavin*" when it occurs near to the articulation.

CASE VI.

Lord D———, when about fifteen years old, was attacked with fever, attended with excruciating pain about the middle of both of the tibiæ. After several weeks of suffering, the pain and fever subsided; but two bony tumors, about the size and shape of a pul-

let's egg, cut longitudinally, were formed on each of the tibiæ. It is now about sixteen years since Lord D——— suffered from this disease, but the tumors retain their original size. I am not acquainted with the particulars of the case, but I know that Doctor Baillie, who attended his Lordship under this attack, was of opinion that the disease was not connected with Lues.

To enter into the treatment of the different forms of periostitis in detail, would be to extend this paper, already, I fear, too long, to an unreasonable length. The practical conclusions to which the cases would seem to lead, may be summed up in a very few words.

1st. Inflammation of the periosteum, unconnected with specific disease, is an affection of very frequent occurrence. It often occupies the seat of the true venereal node, from which it can be alone distinguished by an accurate investigation of all the circumstances of the case.

2d. In the *acute form* of the disease recourse should be had to the means, both local and consitutional, which have the most decisive effects in discussing inflammation. Should these fail to procure relief, I believe there can be no doubt of the propriety of dividing the inflamed portion of periosteum through its whole length down to the bone.

3d. The same treatment is applicable to the

chronic form of periostitis, with this difference, that in its early stages the disease may frequently be acted upon beneficially, through the medium of the constitution.

4thly. In the constitutional treatment, as our attention is to be directed to the improvement of the general health, our views should not be confined to the correcting a disordered state of the digestive organs, whether real or suspected. The constitution should also have the benefit of those influences which act most beneficially upon it; and of these, I believe, country air and sea-bathing are justly esteemed the most powerful. Sarsaparilla, in whatever way it may act, is often eminently beneficial in cachectic habits, and particularly in those which have been injured by protracted courses of mercury. When chronic periostitis occurs in such habits, the compound decoction or the syrup of sarsaparilla may, in general, be given with considerable advantage.

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Drawn and Engraved by Broca.

EXPLANATION OF PLATE I.

1. Inner ankle.
2. Outer ankle.
3. Inner edge of astragulus, } shewing the curved
4. Outer edge of astragulus, } direction of this bone.
5. Marks the attachment of the capsular ligament beyond which the bone is drawn out into an oblong head.—N. B. Os naviculare had never moved on the articular surface here seen.
6. Os naviculare very much hollowed to adapt itself to the sharp form of the anterior head of the astragulus.
7. Body of cuboid bone, very convex.
8, 9. Shew the places where the articular capsules had been attached, and the great length of bone included within each of these sacs, all of which was covered with cartilage.
10. Outer edge of the os calcis.
11, 12, 13. The three cuneiform bones.

EXPLANATION OF PLATE II.

Fig. 1.

The Shoe.

a The projection to receive the end of the inner splint.

b The projection to receive the end of the outer splint.

c and *d* The straps of leather attached to the heel of the shoe.

Fig. 2.

The inner splint, with *a*, the shouldered end, to be received into the projection of the shoe, *Fig.* 1, *a*.

Fig. 3.

The outer splint.

b The shouldered end to be received into the projection *b* of the shoe *Fig.* 1.

c and *d* two tapes sewed on the outer splint.

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Fig. 1

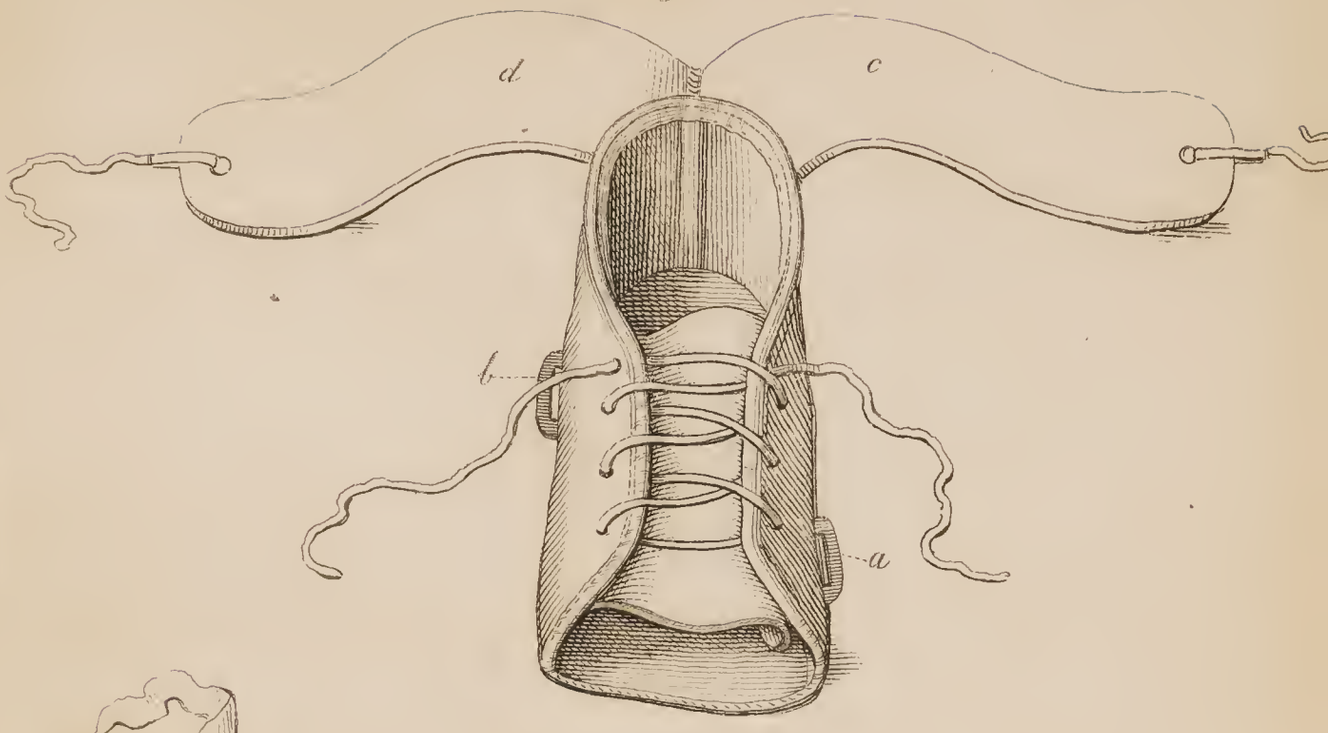

Fig 3

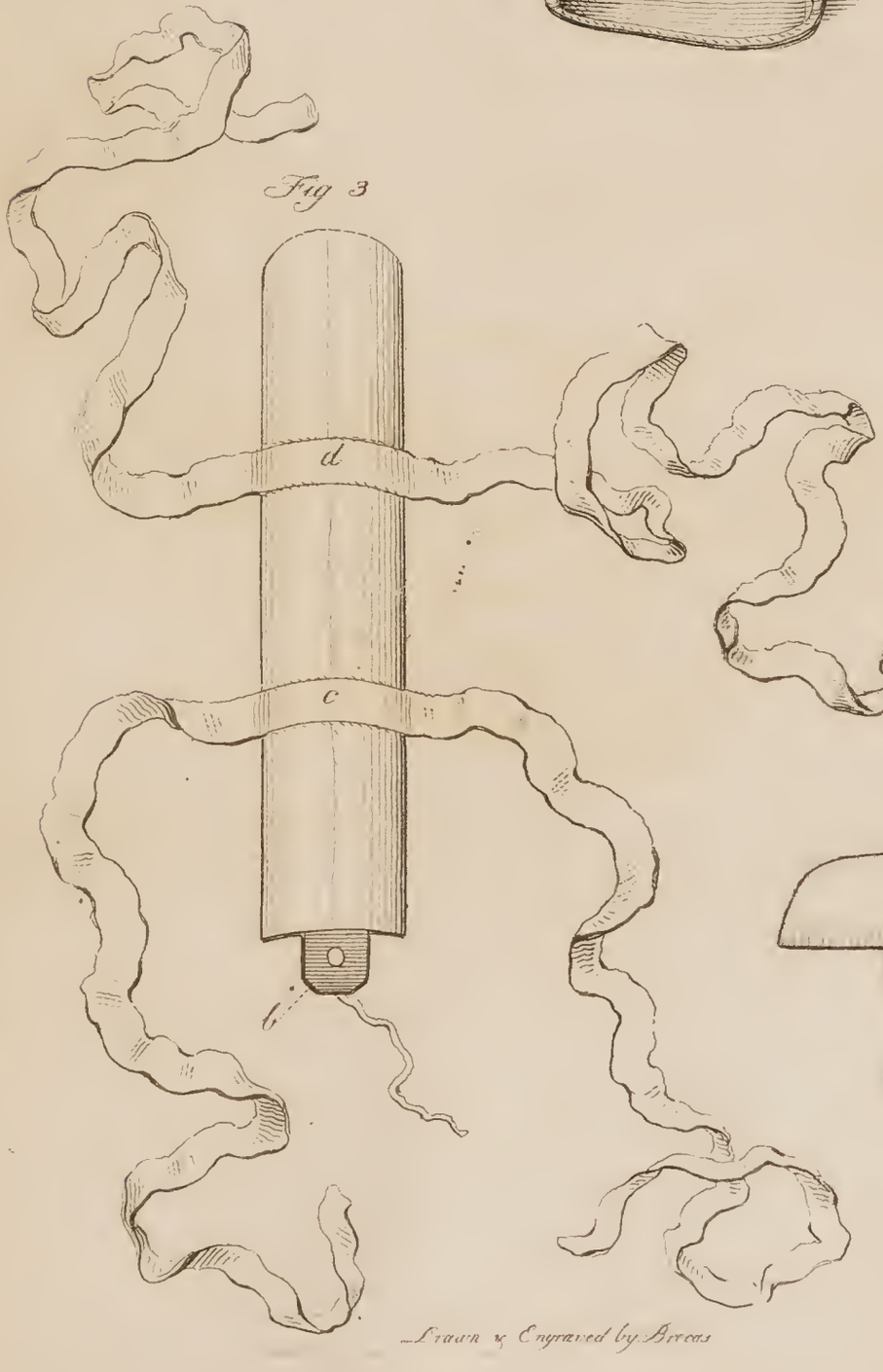

Fig. 2

Drawn & Engraved by Arrows

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